



The Development and Validation of a Cognitive-Behavioural
Measure of Psychological Mindedness

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Abstract

Empirical research examining the construct of psychological mindedness has typically been conducted from a psychodynamic perspective. According to Conte and Ratto (1997), clinicians often view psychological mindedness as a pre-requisite for successful engagement in psychodynamic therapy, although there is limited empirical research to support this assumption. While the construct of psychological mindedness has received attention in the psychodynamic literature, it has received very little interest from a cognitive-behavioural perspective. Examination of various definitions of psychological mindedness (Appelbaum, 1973; Baekeland & Lundwall, 1975) suggests the construct may be clinically useful and applicable to the processes and outcomes of cognitive-behaviour therapy.

The current work provided a new cognitive-behavioural conceptualisation of the construct, defining psychological mindedness as ‘the ability to identify one’s thoughts, emotions, and behaviours, and see connections between them’. As such, this new definition was adopted for the purposes of developing and validating a new Cognitive-Behavioural measure of Psychological Mindedness (CB-PM). This dissertation examined the psychometric properties of the CB-PM by conducting three empirical investigations to assess the clinical utility of the measure.

The first study explored the factor structure, reliability, and validity of the CB-PM, comparing the instrument with established self-report measures, in 100 undergraduate students. A factor analysis of the CB-PM revealed a two-factor structure, labelled ‘ability to identify thoughts, emotions, and behaviours’, and ‘ability

to see connections between thoughts, emotions, and behaviours'. The CB-PM demonstrated high internal, test-retest, and inter-rater reliability. Demonstrating some evidence for its convergent validity, the CB-PM significantly correlated with the theoretically related construct of alexithymia (measured by the Toronto Alexithymia Scale-20; Bagby, Taylor, & Parker, 1994), and with a self-report measure of psychological mindedness derived from a psychodynamic framework (the Psychological Mindedness Scale; Conte & Ratto, 1997), although the CB-PM did not correlate significantly with self-reflection or insight (measured by the Self-Reflection and Insight Scale; Grant, Franklin, & Langford, 2002). In summary, results from the first study provided support for the reliability and validity of the CB-PM.

The second study aimed to address two limitations of the first study, namely, the use of (1) self-report and (2) atheoretical or psychodynamic measures, to establish the convergent validity of the CB-PM. To overcome these two limitations, the second study tested the validity of the CB-PM in 108 undergraduate students, using three ability-based cognitive-behavioural measures that were theoretically expected to be associated with psychological mindedness. These measures were (1) The Thought Record Skills Assessment (TRSA; Neimeyer & Feixas, 1990), designed to measure an individual's competence in completing a thought record consistent with Beck's cognitive-behavioural theory of psychopathology, (2) the D-TEBBS, a measure of the ability to discriminate between thoughts, emotions, behaviours, and bodily sensations, and (3) the C-TEBBS, a measure of the ability to see connections between thoughts, emotions, behaviours, and bodily sensations. The latter two measures were developed by the current author to validate the CB-PM. Results indicated that the CB-PM

correlated positively with each of the three ability-based, cognitive-behavioural measures.

The third study extended the first and second studies by providing further validation for the CB-PM in a depressed population, before and after cognitive-behaviour therapy (and in a depressed waiting-list control group), while also exploring important hypotheses about the role of psychological mindedness in therapeutic practice. The main findings of the third study were that higher levels of psychological mindedness (measured by the CB-PM) before cognitive-behavioural treatment predicted lower post-treatment depression severity. In addition, the therapy group demonstrated increased psychological mindedness scores from pre- to post-treatment, suggesting that cognitive-behaviour therapy improves psychological mindedness, with the CB-PM being sensitive to such change.

Results of the three empirical investigations were integrated and their strengths and limitations outlined. The potential clinical utility of the CB-PM as a tool in therapeutic practice was described and areas for future research were discussed. It was concluded that the findings of the three investigations provide support for the applicability of the CB-PM to the processes, outcomes, and practice of cognitive-behaviour therapy.

Declaration

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

I give consent to this copy of my thesis, when deposited in the University Library, being made available in all forms of media, now or hereafter known.

Signed:

Date: 21/3/2007

Matthew Davies

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INTRODUCTION

There have been many definitions of psychological mindedness in the research literature. As such, empirical research in this area has lacked consensus regarding a common conceptualisation and definition of the construct. The beginnings of psychological mindedness can be traced back to James (1907), Murray (1938), and Jung (1922), and the construct is often described in the research literature as being synonymous with insight, introspection, and self-reflection.

More recently, the psychodynamic research community have shown strong interest in the construct and its clinical applications. While these researchers share a common theoretical framework, operational definitions of psychological mindedness can vary widely. Appelbaum (1973) defines the construct as “a person’s ability to see relationships among thoughts, feelings, and actions, with the goal of learning the meanings and causes of his experiences and behavior” (p. 36). In contrast, McCallum and Piper (1990) relate psychological mindedness closely to psychodynamic theory, defining the construct as “the ability to identify dynamic (intrapsychic) components and to relate them to a person’s difficulties” (p. 412). Such diversity in operational definitions reflects a lack of clarity and direction in the psychological mindedness literature.

According to Conte and Ratto (1997), clinicians consider psychological mindedness to be an important attribute for patient success in psychodynamic treatment. While some evidence supports psychological mindedness as a predictor of

psychodynamic treatment outcome (Conte et al., 1990), there has been relatively little empirical research testing this widely-held belief.

While the construct of psychological mindedness has received attention in the psychodynamic literature, it has received very little interest from a cognitive-behavioural perspective. This may not seem surprising given that many definitions of psychological mindedness focus on attributes and processes that directly relate to psychodynamic therapy. However, close inspection of various conceptualisations of psychological mindedness suggests there may be some usefulness in applying this construct to the processes and outcomes of cognitive-behaviour therapy. Appelbaum's (1973) definition described above focuses on one's ability to see relationships between thoughts, emotions, and behaviours. Similarly, Baekeland and Lundwall (1975) define psychological mindedness as the "ability to see causal relationships between ideas, feelings, and behavior and to recognize and label them in the first place" (p. 767). These definitions relate closely to the cognitive-behavioural approach to psychopathology (Beck, 1976; Beck, Rush, Shaw, & Emery, 1979), which emphasises the connections between one's thoughts, emotions, and behaviours.

This dissertation adopts a definition of psychological mindedness that combines both Appelbaum (1973) and Baekeland and Lundwall's (1975) conceptualisation of the construct. The definition of psychological mindedness used in the current study is as follows: "*The ability to identify one's thoughts, emotions, and behaviours, and see connections between them*". This new definition was not designed to integrate or encompass the broad range of definitions, rather it has been adopted in the current work to guide the development of a new Cognitive-Behavioural

measure of Psychological Mindedness (CB-PM). Thus, the main objective of the current dissertation is to empirically investigate the factor structure, reliability, and validity of the CB-PM with both clinical and non-clinical populations, and apply this new instrument to the processes and outcomes of cognitive-behaviour therapy to establish the CB-PM's clinical utility.

This dissertation is organised into seven chapters. The first chapter examines the varying definitions and measures of the construct, and their applicability to psychodynamic therapy. The second chapter discusses the cognitive-behavioural approach to psychopathology (Beck et al., 1979), the applicability of psychological mindedness to cognitive-behaviour therapy, and a new cognitive-behavioural definition of psychological mindedness is introduced. The third chapter describes the development of a new Cognitive-Behavioural Measure of Psychological Mindedness (CB-PM). Chapter four presents the first empirical investigation into the psychometric properties of the CB-PM, comparing the instrument with established self-report measures, in a non-clinical undergraduate psychology population. The fifth chapter describes the second study, which validates the CB-PM against three cognitive-behavioural, ability-based measures that were expected to be associated with psychological mindedness, as it is currently defined. Chapter six describes the final empirical investigation testing the ability of the CB-PM to predict positive outcome in cognitive-behaviour therapy for depression, and examines the CB-PM's sensitivity to change. The seventh chapter integrates the main findings of the three empirical investigations, describing their respective strengths and limitations. Finally, the clinical usefulness of the CB-PM and possible avenues for future research are explored.

CHAPTER ONE

A brief history of psychological mindedness and psychological thought

1.1 Introduction

Psychological mindedness has laboured under many definitions in the research literature, resulting in confusion over vague terminology. Originally, the construct can be traced to William James' notion of 'tenderminded' which was defined as "a personality trait characterised by an intellectual and idealistic thinking style" (James, 1907, p. 57). Elsewhere, Jung developed the introversion construct, defined as the "tendency to focus one's mental interests to the inner world of one's own thoughts" (Jung, 1935, p. 5). Expanding the concept of introversion, Murray (1938) used the term 'intraception' to describe "engagement in attempts to understand one's own behaviour or the behaviour of others" (p. 25). Throughout the 20th century, the term has been used interchangeably with concepts such as insight, introspection, self-awareness and self-focused attention (Farber, 1985). Consequently, there has been little agreement in the literature as to the precise definition of psychological mindedness.

Historically, the psychological mindedness construct has mainly been adopted and developed by psychodynamic researchers and clinicians. The purpose of this chapter is to describe and compare the varying definitions of psychological mindedness in the psychodynamic literature, including a discussion of the major overarching similarities between these definitions. Following this, the relationship

between psychological mindedness and psychodynamic therapy will be addressed. Finally, conceptually related constructs and the measurement of psychological mindedness will also be described.

1.2 Definitions of psychological mindedness within the psychodynamic literature

The most cited and comprehensive description has been provided by Appelbaum (1973), describing psychological mindedness as “a person’s ability to see relationships among thoughts, feelings, and actions, with the goal of learning the meanings and causes of his experiences and behavior” (p. 36). Appelbaum proposes that psychological mindedness consists of the following four dimensions, each of which may be present to varying degrees in an individual: (1) The ability to see relationships and to learn meanings and causes, (2) An interest in the complexities and motivations of human beings, as well as “a capacity for concern about self and others, and an ability to allow affects their rightful place” (p. 37), (3) the ability to direct psychological thinking towards oneself, and (4) the ability to put one’s “capabilities for psychological thinking at the service of the psychoanalytic process” (p. 37). Appelbaum describes a person as psychologically minded based on the degree to which they satisfy the above four criteria. Hence, Appelbaum’s definition is broad in scope, encompassing cognitive, affective, behavioural, and motivational domains.

Wolitzky and Reuben (1974) define psychological mindedness as “a tendency to understand or explain behavior in psychological terms” (p. 26). Importantly, Wolitzky and Reuben hold the view that an individual’s explanation for behaviour does not necessarily need to be correct, rather, it is only important that a

psychological explanation of behaviour has been provided. Also, the *tendency* towards psychological mindedness is viewed as a relatively consistent pattern of the individual, rather than a latent ability that is only used when required. In contrast to Appelbaum (1973), Wolitzky and Reuben's definition has a narrower focus, emphasising cognitive and behavioural domains. Furthermore, while Appelbaum places emphasis on an individual's *ability* for psychological thinking, Wolitzky and Reuben simply state it is enough for the individual to provide a psychological explanation for behaviour, without requiring this explanation to be accurate.

In an article exploring factors associated with patient attrition from psychotherapy, Baekeland and Lundwall (1975) propose psychological mindedness as one of many factors that predict patient attrition. Baekeland and Lundwall note that psychological mindedness is a complex and multi-factorial construct, describing it as "an ability both to see causal relationships between ideas, feelings, and behavior and to recognize and label them in the first place" (p. 767), which is very similar to Appelbaum's (1973) definition. Notably, Baekeland and Lundwall make an important point not mentioned by others, that thoughts, feelings, and behaviours first need to be recognised and labelled as such, before the relationships between them can be identified. Furthermore, they suggest that psychological mindedness "implies the patient's ability to recognize and admit psychological and interpersonal problems, to see himself in psychological terms, to use or to accept the use of psychological constructs, or at least imagine psychological causes of his symptoms and behavior" (p. 756). This conception of psychological mindedness bears similarity to Rotter's notion of locus of control (Rotter, 1966). That is, those individuals who are psychologically minded are more likely to recognise their psychological problems,

and might consider the possibility that the causes of their disturbance might be due, at least in part, to psychological issues that reside within the self, rather than the external environment.

There is large overlap between Wolitzky and Reuben's (1974) and Dollinger, Reader, Marnett, and Tylenda's (1983, p. 183) definition, which describes psychological mindedness as "reading between the lines of behavior" (p. 183), or "looking beyond the surface of overt behavior for underlying psychological meaning or consistency" (p. 184). However, Dollinger et al. (1983) emphasise that psychological mindedness is a competency or ability, that is, this notion of *reading between the lines* must be accurate. In contrast, Wolitzky and Reuben conceptualise psychological mindedness as an interest, and suggest that *interest* and *ability* "may have different correlates and different implications for progress in psychotherapy when the focus of understanding is the self" (p. 26).

In an article describing treatment considerations for patients with Borderline Personality Disorder, Silver (1983) suggests that the capacities for interpersonal relationships, psychological mindedness, empathy and psychological soothing of self and others, are important patient attributes that have the potential to mediate positive outcome in psychotherapy. Silver defines psychological mindedness as "the patient's desire to learn the possible meanings and causes of his internal and external experiences as well as the patient's ability to look inwards to psychical factors rather than only outwards to environmental factors" (p. 516). Silver goes on to extend this definition, asserting that psychological mindedness also includes an individual's "capacity to potentially conceptualise the relationship between thoughts, feelings and

actions” (p. 516). Although not explicitly stated in the article, this definition appears to be influenced by Appelbaum’s (1973) definition of psychological mindedness (“A person’s ability to see relationships among thoughts, feelings, and actions”, p. 36). As with Dollinger et al. (1983) and Appelbaum’s definition, Silver conceptualises psychological mindedness as a competency or ability, rather than simply a tendency or interest.

Like Appelbaum’s (1973) definition, Ryan and Cicchetti’s (1985) conception of psychological mindedness is broad in scope. Ryan and Cicchetti posit psychological mindedness to be “the quality of the patient’s psychological set toward himself/herself and his/her difficulties” (p. 720). Individuals who are high in psychological mindedness would tend to view their problems as “intrapsychic or exclusively within the self” (p. 720). In contrast, those who are low in psychological mindedness would tend to view the source of their problems as being external to the self. Like Baekeland and Lundwall’s (1975) definition, this conception of psychological mindedness bears similarities to Rotter’s (1966) notion of locus of control. There is also some similarity between this definition of psychological mindedness, and Jung’s personality trait of introversion. That is, both emphasise the tendency of individuals to direct attention towards their inner world, rather than towards their external environment.

In an article examining the developmental origins of psychological mindedness in graduate therapists, Farber (1985) defines psychological mindedness as a “a trait which has at its core the disposition to reflect upon the meaning and motivation of behavior, thoughts, and feelings in oneself and others” (p. 170),

describing psychological mindedness as a desirable trait in both therapists and patients. This definition is quite broad in the sense that it describes psychological mindedness as a *reflective* trait, and includes cognitive, affective, behavioural, and motivational domains, similar to Appelbaum's (1973) definition. Notably, Farber regards psychological mindedness as a trait indicating reflection on both oneself *and* others. Most authors do not mention reflection upon others, and this distinguishes Farber's definition of psychological mindedness from many other authors in the literature (e.g., Appelbaum, 1973; Ryan & Cicchetti, 1985; Silver, 1983)

Farber (1985) also distinguishes between two different modes of psychological mindedness: an apperceptive (experiential) mode, and an intellectual mode. Farber suggests that apperceptive knowledge "grows directly out of immediate experiences and one's emotional reactions to them" (p. 174), and involves the capacity to experience one's inner mental life, and a readiness to acknowledge the full range of one's own emotional experiences. Hence, the experiential mode of psychological mindedness can be thought of as reflection directed towards one's emotional life. When this mode is directed towards others, Farber describes apperceptive knowledge as the ability to be in touch with and to share another's feelings. In contrast, Farber regards intellectual knowing as more logical and linear. According to Farber, a therapist's intellectual knowledge of a patient is "obtained through testing clinical hypotheses, establishing a diagnosis, and making use of established psychological constructs to understand a patient's dynamics" (p. 174). Farber suggests that the combination of both modes of psychological mindedness is essential for effective psychoanalytic clinical work. That is, intellectual knowledge of the patient is more effective when accompanied by emotional and empathetic

understanding, suggesting psychological mindedness is a positive quality of the psychodynamic therapist.

Coltart (1988) discusses how psychological mindedness might be assessed in the context of a diagnostic interview before the commencement of psychoanalytic therapy. Coltart suggests that therapists should look for client characteristics such as autobiographical story-telling ability, access to feelings that are related to particular memories, self-reflectiveness, personal responsibility, and a sense of imagination. Furthermore, Coltart asserts “there are people who cannot tolerate, and stoutly deny, that they have an unconscious...such people are unsuitable candidates for the analytical approach” (p. 819). This suggestion that psychologically minded patients should have an awareness of their own unique unconscious mental life is a further example of the predominantly psychoanalytic tradition from which this construct arose.

In the context of determining whether psychological mindedness predicts outcome in psychodynamic short-term group therapy, McCallum and Piper (1990) define psychological mindedness as “the ability to identify dynamic (intrapsychic) components and to relate them to a person’s difficulties” (p. 412). As stated by McCallum and Piper, this definition is more insight-oriented than the majority of previous definitions, and they suggest that to benefit from psychodynamic therapy, the patient needs to be “receptive to the hypothesis that current difficulties are linked to unconscious conflicts” (p. 412), that is, they need to be psychologically minded. This definition has a particular focus on psychopathology, viewing psychological

mindedness as a trait that is best applied to a psychiatric population in the context of psychodynamic therapy.

As part of the development of a new instrument for predicting patient suitability for psychodynamic therapy, Conte et al. (1990) defined psychological mindedness as consisting of the following four components: (1) access to one's feelings, (2) willingness to discuss one's psychological problems, (3) ability and motivation for behavioural change, and (4) interest in what motivates other people's behaviour. Based on a later factor analysis of their instrument, Conte, Ratto, and Karasu (1996) defined psychological mindedness as "an attribute of an individual that pre-supposes a degree of access to one's feelings, a willingness to try to understand oneself and others, a belief in the benefit of discussing one's problems, an interest in the meaning and motivation of one's own and others' thoughts, feelings, and behavior, and a capacity for change" (p. 258). As with the definition provided by McCallum and Piper (1990), this definition has a particular focus on psychopathology and self-improvement, rather than viewing psychological mindedness as a trait that exists to varying degrees in both clinical and non-clinical populations. This again reflects the fact that the psychological mindedness construct was developed primarily to predict outcome in psychodynamic therapy.

In an attempt to provide clarity to the variety of conceptualisations and definitions of psychological mindedness, Hall (1992) constructed a new conceptual model for understanding psychological mindedness. Hall suggests that although the construct potentially has applications for psychotherapy process and outcome, definitions appearing in the research literature have lacked clarity, and have

inconsistently included interest, ability, affect, and intellectual components. In an effort to develop a more focused definition, Hall defined the construct as “reflectivity about psychological processes, relationships, and meanings, and is displayed by an individual to the extent that he or she displays both interest in and ability for such reflectivity, and across both affective and intellectual domains. Ability is contributed to and limited by interest, and intellectual psychological mindedness is contributed to and limited by affective psychological mindedness” (p. 139-140). Before discussing this definition, it will be necessary to define the affect/intellectual dimension that is mentioned. By intellectual psychological mindedness, Hall refers to the ability to see relationships among thoughts, feelings, and actions, and to learn meanings and causes. Affective psychological mindedness refers to experiential/emotional awareness. Such awareness includes the ability to recognise, label, and describe feelings. Hall is suggesting that emotional awareness is required before individuals can learn the meanings and causes of their emotional/experiential life. Likewise, an individual must be interested in psychological processes before demonstrating reflectivity towards thoughts, emotions, and behaviours. Hence, both intellect/affect and interest/ability dimensions determine the extent of an individual’s psychological reflectivity.

The model of psychological mindedness provided by Hall (1992) is largely atheoretical. This is in direct contrast to the vast majority of the research literature, which come from the psychoanalytic perspective. Hence, Hall’s conceptualisation of the construct infers that the empirical study of psychological mindedness can be undertaken outside of the psychoanalytic orientation, and into different theoretical frameworks.

1.3 Similarities and differences between the definitions of psychological mindedness

While there is large variation in the above definitions, there are some underlying themes and assumptions that arguably unify these different conceptions of psychological mindedness. Zimet (1995) has examined and outlined three areas of overlap between the various conceptions and assumptions of the psychological mindedness construct. The first is concerned with the direction, deployment, and focus of attention. These definitions all suggest that when considering problems that relate to the self, the psychologically minded individual focuses attention particularly upon the “complex interplay between subjective experience and external events” (p. 17), rather than the more objective aspects of human behaviour and experience. That is, consideration is given to how one’s thoughts, interpretations, and assumptions interact with external events to produce a psychological, emotional, and behavioural outcome.

The second area of overlap Zimet (1995) identified is concerned with the synthesis and integration of incoming information. The psychologically minded individual can organise seemingly disparate and unrelated experiences and behaviours into a more coherent and organised Gestalt perspective. As described by Wolitzky and Reuben (1974), psychologically minded individuals can “synthesise seemingly diverse behaviors by abstracting a few unifying themes” (p. 26).

Finally, Zimet (1995) suggests that the third area of overlap between definitions of psychological mindedness is concerned with the object of explanation.

The majority of these definitions suggest that psychologically minded individuals are motivated to demonstrate insight and understanding towards one's self, while others are of secondary importance. As suggested by Zimet, the insight gained tends to be directed towards owning and accepting personal responsibility for one's own situation and emotional/behavioural difficulties. This idea is closely related to Rotter's (1966) conception of internal locus of control, and is inversely related to Kernberg's (1973) conception of externalisation, being defined as when "the patient perceives his psychological problems as environmentally provoked and determined, instead of assuming responsibility for them" (p. 93).

While there are some similarities between the large number of conceptions of psychological mindedness, there are also some major differences. Zimet (1995) suggests that these different definitions vary "in their comprehensiveness, in the degree to which they accord with, or derive from psychoanalytic theory, and by virtue of the priority they assign to the various characteristics/skills associated with psychological mindedness" (p. 18). This last point is particularly relevant to the distinction that different theorists make between cognitive and emotional psychological mindedness. The cognitive aspect of psychological mindedness tends to reflect the "capacity to step back from self-experience and observe it reflectively" (Zimet, 1995, p. 24), as well as maintaining a problem focus. According to Zimet, the emotional aspect of psychological mindedness includes the task of affect tolerance or control, that is, the ability to identify and describe emotions, but also to integrate these feelings with insight into the individual's current problems.

Some researchers tend to regard psychological mindedness as a tendency/interest, or a relatively consistent preference of the individual (e.g., Farber, 1985; Wolitzky & Reuben, 1974). Others regard the construct as an ability, which means rather than being a tendency, it is a competency. Such a definition implies, as suggested by Dollinger et al. (1983) and Appelbaum (1973), that judgements or interpretations need to be correct before the individual is considered to be psychologically minded. Hence, another major difference in the psychodynamic research literature is whether psychological mindedness is defined as an interest or ability.

1.4 Psychological mindedness and psychodynamic therapy

Psychodynamic researchers have long held that psychological mindedness is an important pre-requisite for client engagement in psychodynamic therapy (McCallum & Piper, 1996). This section will describe the theory of psychoanalysis and the theory and evidence for psychological mindedness as a predictor of psychodynamic therapy outcome.

1.4.1 The theory of psychoanalysis

Psychoanalysis is a system of psychology that was developed by Sigmund Freud in the 1890s and further developed by himself and his students. The psychoanalytic system of thought revolutionised psychology in the early 20th century and influenced our understanding of psychopathology, the functioning of the human mind, and related modes of behaviour (Baker, 1985). Many psychotherapeutic

models developed over the past one hundred years have been influenced by the contribution of psychoanalytic thought to psychological science.

The beginnings of Freud's psychoanalytic theory can be traced back to Freud and Breuer's (1895) understanding of the mechanism of hysterical phenomena. The authors thought that hysteria was caused by severe psychic trauma that could not be dealt with via the conscious mind because it involved irreparable loss or a sexual experience that was unacceptable to the conscious mind. Hence, the experience was excluded from consciousness and repressed into the subconscious mind. The resulting unconscious energy was thought to be discharged and converted into somatic or bodily symptoms. In this way, somatic symptoms of hysteria such as paralysis, contractures, and pseudo-seizures were understood as a symbolic representation of unconscious psychic conflict (Levinson, 1999).

From this initial conceptualisation of hysterical phenomena came the complete system of psychological thought known as psychoanalytic theory. While Freud himself made many revisions to the theory over the course of his life, psychoanalysis does appear to have five general characteristics that are shared by the various schools of psychoanalytic thought: determinism, multiple determination of behaviour, emphasis on the unconscious, conviction that behaviour has meaning, and the expression of internal conflict (Baker, 1985). These five characteristics are discussed below.

Determinism. Psychoanalysts tend to explain behaviour in a deterministic manner. It is believed that all behaviour is a direct result of a number of definable variables that

determine how we act. In psychoanalysis, there is an emphasis on explaining behaviour as resulting from the developmental experiences of the individual.

Multiple Determination of Behaviour. Essentially, psychoanalysts posit that there are multiple determinants of behaviour, and that each determinant (or variable) can exert different levels of influence, but that each must be considered if behaviour is to be understood correctly.

Emphasis on the Unconscious. While the individual may be aware of some determining factors of behaviour, psychoanalytic thought emphasises that other determinants may be outside one's conscious awareness. The concept that behaviour can be explained by various processes at different levels of awareness is one of the fundamental tenets of psychoanalytic theory.

Behaviour has Meaning. Psychoanalysts assert that thoughts and actions are not coincidental, but are the meaningful outcome of determining variables and processes. Hence, behaviours are often viewed as being metaphoric or symbolic, leading psychoanalysts to interpret dreams, slips of the tongue, humour, and non-verbal behaviours.

The Role of Conflict. Psychoanalytic theorists believe that internal conflicts seek expression within a social environment that reinforces conformity and inhibition. Because an individual's impulses and drives struggle to be realised in this social environment, many behaviours are interpreted as attempts to resolve this conflict.

1.4.2 The role of psychological mindedness as a predictor of psychodynamic therapy outcome

Definitions of psychodynamic therapy in the research literature can vary quite considerably. However, psychodynamic therapy is generally considered to be an individual treatment for adults underpinned by psychoanalytic theory. The psychodynamic approach essentially aims to link psychological therapy and counselling with psychoanalytic theory and principles (Jacobs, 1988).

Psychodynamic researchers and practitioners tend to view psychologically minded clients as being “suitable” candidates for psychodynamic therapy and more likely to benefit from such therapy (Coltart, 1988; Conte et al., 1990; McCallum & Piper, 1990). Many theorists suggest that this is because psychologically minded patients possess the ability to develop insight into their internal conflicts and are more likely to respond favourably to the therapist’s interpretations (Zimet, 1995). Psychodynamic theorists often suggest that through an awareness of internal conflicts and unresolved wishes, thoughts, and feelings, the client can work with the therapist to change maladaptive behaviours and improve symptomatology. Naturally, the differences between authors’ conceptualisation of the relationship between psychological mindedness and outcome reflects to some degree the varying definitions of the construct.

As described earlier, McCallum and Piper (1990) view psychological mindedness as the ability to identify dynamic (intrapsychic) components and relate them to a person’s difficulties. According to McCallum and Piper, dynamically

oriented therapy involves clients developing insight and understanding into how their current difficulties are “the manifestation of underlying psychic conflicts involving unpermissible wishes, anxiety (or fear), and defence mechanisms mobilized to cope with anxiety and maintain repression of wishes” (p. 412). Hence the authors view psychological mindedness as important for psychodynamic therapy because the client needs to be receptive to the psychoanalytic view that current problems are linked with unconscious conflicts. Therefore, a psychologically minded or ‘receptive’ client, will be better able to identify such unconscious conflicts and link these to presenting problems.

Providing another explanation regarding how psychological mindedness might relate to positive outcome in psychodynamic therapy, Zimet (1995) suggests that psychological mindedness is a function of the ego and is “dependent upon the ego’s capacity to take perspective on itself and gain distance from its emotional experience” (p. 22). That is, during the course of free association and transference the patient verbalizes a series of raw emotional material to the therapist. With the help of the therapist, the patient can then take some perspective and contemplate the meaning of such re-experienced affective material. Hence, psychoanalytic theory posits the split of the ego into the “observing ego” and the “experiencing ego”. Zimet (1995) argues that the observing ego bears close resemblance to Hall’s (1992) *intellectual* dimension of psychological mindedness, and that the experiencing ego has strong theoretical similarities with the *affective* component of psychological mindedness. Therefore, through re-experiencing and taking an intellectual perspective on emotion, Zimet suggests that the psychologically minded patient will more likely benefit from psychoanalytic therapy.

1.4.3 The evidence for psychological mindedness as a predictor of outcome in psychodynamic therapy

While psychological mindedness has been considered by clinicians to be an important attribute for patient success in psychodynamic treatment, there has been relatively little empirical research that has actually tested this widely-held belief.

One exception to this is a study by Conte et al. (1990) who used their Psychological Mindedness Scale (PMS) to explore the relationship between psychological mindedness and the outcome of psychodynamic therapy. The psychological mindedness scores of 44 adult outpatients attending a median of 15 therapy sessions were correlated with a number of outcome measures derived from retrospective chart reviews. The outcome measures included the number of sessions attended, discharge ratings, and change scores on the Global Assessment Scale (GAS; Endicott, Spitzer, & Fleiss, 1976) and the Psychiatric Outpatient Rating Scale (PORS; Plutchik, Conte, & Spence, 1990). The absence of significant correlations between psychological mindedness scores and initial GAS and PORS scores suggest that psychological mindedness was unrelated to initial general functioning and psychiatric symptomatology at intake. However, psychological mindedness scores did correlate significantly and positively ($r = .37$) with the number of therapy sessions subsequently attended. This finding suggests that psychologically minded patients might be more suited and perhaps better equipped to the tasks of psychodynamic therapy, making them more likely to stay in therapy. Adding further support for the clinical significance and predictive validity of the psychological mindedness construct, the PMS was also significantly related to improved psychosocial

functioning at discharge as measured by the GAS and to decreased psychiatric symptoms at discharge as measured by the PORS. According to Conte et al. (1990), these findings suggest that “regardless of educational level and regardless of initial symptomatology, the higher an individual’s PM, the greater the likelihood of his/her becoming engaged in therapy and benefiting from it” (p. 429). A further point of interest is that Conte et al. selected 20 items from the 45 item PMS that were considered to be the best predictors of outcome, on the basis of the number of outcome measures with which they correlated and the strength of such correlations. On this basis, the authors suggested that these 20 items might be used in clinical practice to predict psychotherapy outcome. However, given the relatively small sample size ($n = 44$) utilised in the study, it remains to be seen whether these results are due to sampling error. In light of this, the authors suggested that the entire scale should be subjected to cross-validation using another sample.

These findings were not entirely replicated in a subsequent study by Conte, Ratto, and Karasu (1996). At admission to a large hospital clinic, 256 psychiatric outpatients completed the Psychological Mindedness Scale prior to receiving psychotherapy. The outpatient clinic provided supportive and insight-oriented psychotherapy, group psychotherapy, family and marital therapy, and medication. However, 92% received individual therapy, with the other 8% receiving either group or group plus individual treatment. Of the initial 256 patients, 116 of these attended at least four sessions, with their psychological mindedness scores at intake being compared with outcome measures. A significant but modest positive correlation was found between initial psychological mindedness scores and the subsequent number of therapy sessions attended ($r = .25$). While their earlier study found psychological

mindedness to be significantly related to improved psychosocial functioning at discharge as measured by the GAS and to decreased psychiatric symptoms at discharge as measured by the PORS, this replication study did not find any significant relationship between psychological mindedness and these measures (Conte et al., 1996). Hence, while the authors findings did suggest that the more psychologically minded an individual is, the more likely they are to become engaged in therapy, they cast doubt over their earlier assertion that such psychologically minded patients are also more likely to objectively benefit from therapy.

A further study by McCallum, Piper, and O'Kelly (1997) investigated psychological mindedness as a predictor of therapy outcome in an insight-oriented group treatment program for patients with co-existing mood and personality disorders. They found pre-therapy psychological mindedness scores, as measured by their Psychological Mindedness Assessment Procedure (McCallum & Piper, 1990), to be positively related to patients' engagement in the work of group therapy. However, psychological mindedness was unrelated to measures of therapy outcome, thus replicating the finding of Conte et al. (1996), but with a different measure. The latter finding may have been due, in part, to a lack of variance in the outcome measures used.

In summary, while the research literature generally suggests psychological mindedness to be a predictor of outcome in psychodynamic therapy, there is very limited empirical evidence to support this claim.

1.5 Constructs related to psychological mindedness

This section will describe the similarities and differences between psychological mindedness and other related constructs.

1.5.1 Alexithymia

Alexithymia is characterised by a deficit in the ability to recognise one's own emotions and communicate them to other people, together with a propensity towards externally-oriented thinking (Taylor & Taylor, 1997). Taylor, Bagby, and Parker (1997) have identified four components of the alexithymia construct: "(i) difficulty identifying feelings and distinguishing between feelings and the bodily sensations of emotional arousal; (ii) difficulty describing feelings to other people; (iii) constricted imaginal processes, as evidenced by a paucity of fantasies; and (iv) a stimulus-bound, externally orientated cognitive style" (p. 29).

According to Taylor et al. (1997), some individuals who are labelled as alexithymic might appear to contradict the above definition in that they appear to demonstrate a variety of negative emotions such as intense anger or dysphoria. However, careful questioning of such individuals can reveal that they actually demonstrate little understanding of their feelings, and find it difficult to relate them to memories, fantasies, or environmental situations (Taylor et al., 1997). Similarly, alexithymic patients often present with anxiety and depression, but closer evaluation of their anxiety reveals nervousness, agitation, restlessness, and tension (Sifneos,

1994). Alexithymic patients with depressive affect often report sensations of emptiness, boredom, and pain.

A number of authors conceptualise the above alexithymic traits as reflecting deficits in the mental representation of emotions and in the ability to modulate emotions through cognitive processes (e.g., Parker, Taylor, & Bagby, 1998; Sifneos, 1994). Furthermore, alexithymic individuals experience difficulties at the level of interpersonal regulation of emotion. Having difficulties identifying their own emotions, they also verbally communicate their emotional distress very poorly, and therefore have problems gaining emotional support from others (Taylor et al., 1997).

The construct of alexithymia was developed in the field of psychosomatic illness where some patients were found to have marked deficits in the expression and regulation of emotion. There is an increasing body of research that conceptualises alexithymia as a potential personality risk factor for a variety of medical and psychiatric disorders (Taylor et al., 1997). For example, an inability to cognitively process distressing emotions might result in autonomic nervous system activation, thereby producing the symptoms of a variety of somatic diseases. Alexithymia can also be conceptualised as a risk factor for somatisation disorder. In this case, the alexithymic individual's limited ability to cognitively regulate emotions may result in selective attention to, and misinterpretation of, the somatic symptoms associated with emotional arousal.

In contrast to psychological mindedness, the alexithymia construct has been subject to considerable empirical research evaluating the validity of both the construct

and its measurement. Furthermore, the definition of alexithymia as described in the literature is well-defined and conceptually clear, whereas the psychological mindedness construct has been defined in a wide range of ways and is not always conceptually distinguished from other constructs such as self-awareness, insightfulness and introspectiveness (Taylor et al., 1997).

As described earlier, Appelbaum (1973) defines psychological mindedness as “A person’s ability to see relationships among thoughts, feelings, and actions, with the goal of learning the meanings and causes of his experiences and behavior” (p. 36). Using this definition we can see there is some overlap between the two constructs. With respect to psychological mindedness, clearly an individual must have the ability to identify their emotions before they can see associations among thoughts, feelings, and behaviours. This ability to identify emotions is also integral to the alexithymia construct, which is concerned with the processing and regulation of affect. Hence, the identification and description of emotions are clearly areas of overlap between these constructs

A major difference between the two constructs is that alexithymia is much more narrowly defined, and is principally concerned with the emotional dimension. According to a number of definitions (e.g., Appelbaum, 1973; Baekeland & Lundwall, 1975; Conte et al., 1996), psychological mindedness on the other hand is broad in scope, and usually encompasses the intellectual, emotional, and behavioural domains, and how they relate to each other. An individual who is psychologically minded is unlikely to be alexithymic, because a psychologically minded individual must possess the requisite ability to identify and describe their emotions before they

are able to see the relationship between thoughts, feelings, and behaviours. On the other hand, an individual who is low on alexithymia (non-alexithymic) would not necessarily be psychologically minded. That is, although they can identify and describe emotions, this does not mean they can see the relationship among thoughts, feelings, and behaviours. Therefore, there is an inverse relationship between psychological mindedness and alexithymia, but the above analysis indicates that this relationship is complicated rather than a singular negative relationship.

1.5.2 Private self-consciousness

Self-consciousness refers to a relatively stable personality tendency to direct attention and thought toward oneself (Fenigstein, 1997). According to Fenigstein, this concept of self-consciousness and self-focused attention is a product of Duval and Wicklund's (1972) theory of self-awareness. The central tenet of this theory is the distinction between directing attention inwards toward the self, and attention directed to the external environment. Also, while the self can be regarded as an attentional object in the same way as the external environment, Duval and Wicklund suggest that the self is psychologically unique and has personal importance. According to Fenigstein, a large body of research has supported the self as a unique attentional object where "knowledge about the self is especially elaborate and well-organized, and is more readily brought to mind, compared to other knowledge domains" (p. 105).

Fenigstein (1975) speculated that self-focused attention and self-consciousness may result from relatively stable dispositional tendencies that evidence considerable variability between individuals. That is, Fenigstein conceptualises self-consciousness

as a personality trait, where “some persons constantly think about themselves, scrutinize their behavior (or appearance), and mull over their thoughts – to the point of obsessiveness” (p. 522), whereas for others the “absence of self-consciousness is so complete that they have no understanding of either their own motives or of how they appear to others” (p. 522). Hence, the *trait* of self-consciousness refers to the relatively permanent tendency of individuals to direct attention inwards, whereas self-awareness refers to the *state* of being attentive to the self, which could be a result of situational variables, a personality trait, or both (Fenigstein, 1997).

Self-consciousness was first thought of as a single, global dimension but research has shown that it comprises two distinct components (Fenigstein et al., 1975). Private self-consciousness refers to a tendency to be aware of the covert, internal aspects of oneself, and to be particularly attentive to one’s inner thoughts and feelings. Public self-consciousness involves an awareness of and interest in the outwardly displayed manifestations of self, such as appearance, social behaviour, and the impression made on others.

Some researchers (e.g., Farber, 1985) consider private self-consciousness to be closely related to, and in some cases synonymous with psychological mindedness. While the two constructs do share some similarities, there are also important differences that need to be considered. While private self-consciousness is considered a predisposition to habitually *attend* to one’s thoughts, motives, and feelings, psychological mindedness refers to the ability to understand and describe the relationship between thoughts, feelings, and behaviour (Appelbaum, 1973). Hence, there are two important differences: (a) psychological mindedness, unlike self-

consciousness is concerned with seeing *relationships* among varying aspects of internal and external life, and (b) psychological mindedness, as defined by Appelbaum, refers to an ability, whereas private self-consciousness is more of a trait, tendency, or interest.

1.5.3 Emotional intelligence

Salovey and Mayer (1990) define emotional intelligence as “the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions” (p. 189). According to Parker, Taylor, and Bagby (2001), this definition includes two types of personal intelligences that were first described by Gardner (1999): (a) intrapersonal intelligence, the ability to access one’s own feeling life, and (b) interpersonal intelligence, the ability to read the moods, intentions, and desires of others. As with the construct of psychological mindedness, there are a number of definitions and conceptualisations of emotional intelligence. For example, Bar-On (1997) conceptualises emotional intelligence in a relatively broad sense, suggesting the construct includes adaptive capacities and abilities to control impulses and cope with stress, as well as intrapersonal and interpersonal intelligence.

Depending on the varying definitions used, emotional intelligence does have some features in common with psychological mindedness. An aspect of emotional intelligence involves the ability to monitor one’s own feelings and to discriminate among them. This ability is also integral to psychological mindedness, that is, before an individual is able to see the relationship between their thoughts, emotions, and

behaviours, they must first be able to monitor and discriminate between their feelings. Hence, this aspect of emotional intelligence can be seen as a pre-requisite for psychological mindedness.

Salovey and Mayer (1990) also suggest that emotionally intelligent individuals would use emotional knowledge to guide their thinking and behaviour. This is similar to psychological mindedness in the sense that the emotionally intelligent individual can see the relationship between thoughts and emotions. However, this definition of emotional intelligence suggests it is knowledge of emotion that leads to changes in thoughts and behaviour. Psychological mindedness, on the other hand, suggests there are a number of different ways that thoughts, feelings, and behaviours can interact (for example, thoughts have an influence on both feelings and actions).

1.5.4 Mindfulness

Mindfulness is a mode of awareness that is most clearly described in Eastern meditative traditions. Marlatt and Kristeller (1999) describe mindfulness as “bringing one’s complete attention to the present experience on a moment-to-moment basis” (p. 68). Similarly, Kabat-Zinn (1994) defines mindfulness as “paying attention in a particular way: on purpose, in the present moment, and non-judgementally” (p. 4). Hence, mindfulness consists of (a) an awareness of present moment experience, and (b) responding non-judgementally to the focus of awareness (Bishop et al., 2004). Hence, mindfulness is being aware of present moment experience, which may include perceptions, cognitions, emotions, or bodily sensations. Mindful individuals are not

judging or reflecting upon these internal and external stimuli, but are simply observing the present moment, non-judgementally.

Mindfulness is associated with particular qualities of attention and awareness that can be developed through the process of meditation (Baer, 2003). Mindfulness-Based Stress Reduction (MBSR) is a clinical program designed to help patients who are recovering from medical illness or chronic injury that involves training in mindfulness meditation as a self-regulation approach to stress reduction and emotional management (Kabat-Zinn, 1990). The goal of MBSR is to provide patients with training in meditation to develop the quality of mindfulness. The rationale for the intervention is to teach patients to approach stressful situations mindfully (i.e., with awareness on the present moment in a non-judgemental manner) so they can respond to the situation appropriately without automatically and emotionally reacting.

Segal, Williams, and Teasdale (2002) developed a therapeutic approach called Mindfulness-Based Cognitive Therapy (MBCT) designed to reduce the occurrence of depressive relapse. This group-based therapy is essentially an integration of cognitive-behaviour therapy for depression, and Mindfulness-Based Stress Reduction (MBSR). MBCT is designed to encourage clients to be mindful and take a 'step back' from their thoughts and emotions, regarding them as mental events, rather than reflecting 'me' or 'reality'. Therefore, MBCT aims at teaching participants to take a decentered perspective on their depressive thoughts and feelings, rather than getting 'stuck' in the cycle of lowered mood and negative rumination.

As described earlier, the central features of mindfulness are (a) an awareness of present moment experience, and (b) responding non-judgementally to the focus of awareness (Bishop et al., 2004). This is in contrast to the individual who, having experienced a negative situation or thought, responds in an automatic and/or emotional manner. Using Appelbaum's (1973) definition, there appears to be two main differences between psychological mindedness and mindfulness. Firstly, mindfulness involves the non-judgemental awareness/observation of internal or external stimuli, without interpreting, responding to, or evaluating the truth or validity of the stimuli. Psychological mindedness, on the other hand, involves examining the *content* of internal stimuli such as thoughts and emotions, and identifying how they relate to each other. Secondly, mindfulness is a non-judgemental state existing in the *present* moment. Psychological mindedness tends to infer seeing relationships between *past* thoughts, emotions, and behaviours, although this is not explicitly discussed in the literature. Hence, the research literature tends to suggest a temporal distinction between psychological mindedness and mindfulness.

1.6 The assessment of psychological mindedness

Due to the large number of definitions of psychological mindedness, it is important to have an adequately defined and empirically validated psychometric measure of this construct. The literature shows that there been a number of attempts made to operationalise and empirically validate the construct. The different measures can be divided into two general approaches to the assessment of psychological mindedness: self-report questionnaires and appraisals based on clinical interviews.

1.6.1 The Psychological Mindedness Scale of the California Psychological Inventory

The most cited questionnaire in the research literature is the Psychological Mindedness scale (Py) of the California Psychological Inventory (CPI; Gough, 1975). The CPI was designed as a measure of interpersonal behaviour to be used primarily in specific settings such as psychiatric clinics, or for particular problems such as vocational preference (Conte & Ratto, 1997). The purpose of the inventory was to “assess the kind of everyday variables that ordinary people use in their daily lives to understand, classify, and predict their own behavior and that of others” (Gough, 1975, p. 1).

For the purposes of the 22-item Py scale, Gough (1975) defined the psychologically minded individual as “interested in, and responsive to, the inner needs, motives, and experiences of others” (p. 11). Individuals who score highly on the scale (ie, are psychologically minded) are described by Gough as “observant, spontaneous, talkative, resourceful, and changeable, verbally fluent and socially ascendant, and rebellious towards rules, restrictions and constraints” (p. 11). In contrast, individuals with low scores on the scale are considered “apathetic, peaceable, cautious, slow and deliberate” (p. 11).

As noted by Conte and Ratto (1997), this conceptualisation of psychological mindedness makes no mention of self-reflection or self-understanding. In fact, some items in the scale evidence extremely poor face validity, for example “we ought to pay our elected officials better than we do” (p. 9) and “I do not have a great fear of

snakes” (p. 9). Hence, the definitions of psychological mindedness used to develop the scale are inadequate and the questionnaire items evidence very poor face validity. The items of the scale do not appear to tap into the essence of psychological mindedness, which is related to self-reflection and the ability to see relationships between one’s own thoughts, emotions, and behaviour.

The Manual of the CPI reports the test-retest reliability of the Py scale over a one year period for 227 high school students as .48 for males and .49 for females (Gough, 1975). The CPI Manual also reports a test-retest correlation for 200 male prisoners over a 4-week interval of .53. These two studies suggest that the Py scale has poor to moderate test-retest reliability, with approximately 25% of variance being explained between the test-retest intervals. In a sample of 179 undergraduate females, Hase and Goldberg (1967) report a Cronbach’s alpha internal consistency coefficient of .44. Also, Gough (1987) reports a Cronbach’s alpha coefficient of .62 for 400 undergraduate students. As with test-retest reliability, these results suggest that the Py scale demonstrates poor to moderate internal consistency.

In an attempt to establish the convergent validity of the Py scale, Gough (1975) reported that the Py scores of a sample of 70 medical student applicants and a group of 152 adult males correlated .44 and .40, respectively, with the Psychologist scale of the Strong Vocational Interest Blank (Costa, Fozard, & McCrae, 1977). Gough also reported that the mean correlation between Py scores and course grade for 5,103 introductory psychology students was .24. That is, the more psychologically minded a student was, the higher their course grade in the introductory psychology course. However, on a conceptual level, it is unclear whether students with

psychological mindedness should necessarily achieve higher grades than students without this ability. Also, a correlation of .24 represents only approximately 6% of the variance in course grade being explained by psychological mindedness scores.

Hase and Goldberg (1967) reported that Py scores did not correlate significantly with peer ratings of psychological mindedness in a college student sample, casting some doubt over the convergent validity of the Py scale. McCallum and Piper (1990) report more positive results, finding a correlation of .42 between the Py scale and the Psychological Mindedness Assessment Procedure (PMAP; McCallum & Piper, 1990), a clinical interview based on a psychodynamic view of psychological mindedness, to be discussed shortly.

In summary, while normative data on the Py scale of the CPI is based on over 6,000 men and 7,000 women, the empirical research described above does not support the scale as a reliable and valid measure of the psychological mindedness construct, as defined by Gough (1975).

1.6.2 The Psychological Mindedness Scale

A second self-report questionnaire is the Psychological Mindedness Scale (PMS; Conte & Ratto, 1997). The content validity of this 45-item scale was determined by five clinically experienced judges who selected items that, in their opinion, reflect the concept of psychological mindedness as discussed in the literature (Shill & Lumley, 2002). The PMS was specifically designed to assess patients' suitability for psychodynamic therapy (Grant et al., 2002). A factor analysis by Shill

and Lumley (2002) revealed the following five factors of the scale: Belief in the benefits of discussing one's problems, access to feelings, willingness to discuss problems with others, interest in meaning and motivation of own and others' behaviour, and openness to change. Because the measure was designed to assess patient suitability for treatment, it is possible that the PMS includes factors that are not conceptually related to the psychological mindedness construct. In support of this view, Shill and Lumley found that 18 of the 45 items of the scale did not load saliently on any factor, suggesting there are a number of items in the scale that are not measuring any of the five major constructs of the scale.

As suggested by Grant et al. (2002), one limitation of the PMS is that it is explicitly oriented towards patient engagement in psychotherapy. An examination of the factors composing the PMS supports this assertion (eg, factors such as 'belief in the benefits of discussing one's problems' and 'willingness to discuss problems with others'). The willingness to discuss problems with others is not mentioned in the research literature as a characteristic of psychological mindedness, suggesting that the PMS is biased towards assessing patient's preparedness to engage in psychotherapy (Grant et al., 2002).

In an attempt to determine the predictive validity of the PMS, Conte et al. (1990) administered the scale to 44 patients who were admitted to a large outpatient clinic providing primarily psychodynamic therapy. Participant's pre-therapy PMS scores correlated significantly with the number of therapy sessions that they attended ($r = .37$). Pre-therapy PMS scores also correlated with an increase in post-therapy global functioning as judged by an independent rater ($r = .33$) and a decrease in

psychosocial symptoms and problems as rated by clinicians ($r = -.37$). These results provide some support for the ability of the PMS to predict positive outcome in psychodynamic therapy. However, a subsequent study by Conte et al. (1996) failed to replicate these findings and did not find any significant correlations between the PMS and outcome measures derived from therapists' and an independent rater's evaluations.

Shill and Lumley (2002) administered the PMS to a non-clinical sample of 397 undergraduates to assess the factor structure and convergent validity of the scale. As was hypothesised, they found a significant negative correlation between the PMS and the Toronto Alexithymia Scale-20 (TAS-20; Taylor et al., 1997). A negative correlation was expected as alexithymia is associated with a *deficit* in individual's ability to identify and describe feelings. Similarly, in a sample of 85 volunteer undergraduate students, the PMS correlated negatively and significantly with the TAS-20 ($r = -.68$). These results do provide some support for the convergent validity of the PMS.

The internal consistency of the PMS has been established, with a Cronbach's alpha value of .80 in a non-clinical sample (Shill & Lumley, 2002) and .86 for a psychiatric population (Conte et al., 1996). In a community sample of 22 adults, test-retest reliability over a 2-week period was .92.

In summary, the research literature has provided some support for the reliability and validity of the PMS. However, clinical research on the PMS as a predictor of outcome in psychodynamic therapy has produced mixed results.

1.6.3 The Psychological Mindedness Assessment Procedure

The Psychological Mindedness Assessment Procedure (PMAP; McCallum & Piper, 1990) is an individually administered clinical interview that requires approximately 15 minutes to derive a psychological mindedness score. The assessment procedure involves the interviewee watching a videotape that presents two simulated patient-therapist interactions or scenarios that are portrayed by actors to represent various components of therapeutic process (McCallum & Piper, 1997). The videotape begins with the patient describing a recent event in her life to a male therapist. In the first scenario, “the woman describes seeing from a distance, her former husband. In the second scenario, the same woman describes an argument she had with her new boyfriend. The descriptions include verbalisations reflecting dynamic components (i.e., conflictual wishes and fears, defensive manoeuvres) and links between internal and external events (i.e., links between cognitions-affects and behavior)” (McCallum & Piper, 1997, p. 32). The respondent’s account of the interaction between therapist and patient is asserted to determine the psychological mindedness score. After viewing the therapist-patient interaction, the videotape is stopped and the interviewee is asked “for his or her general impressions of ‘What seems to be troubling this woman?’” (p. 32). The scoring criteria of the PMAP distinguish between nine levels of psychological mindedness (see Table 1), each reflecting the basic assumptions of psychoanalytic theory (McCallum & Piper, 1997).

The scoring criteria reflect McCallum and Piper’s (1990) definition of psychological mindedness as “the ability to identify dynamic (intrapsychic) components and to relate them to a person’s difficulties” (p. 412). According to McCallum and Piper, higher scores on the PMAP require the interviewee to articulate

a response that reflects the basic assumptions held by psychodynamic therapists concerning human pathology.

Table 1

The Nine Levels of Psychological Mindedness according to the PMAP

Level 1: The subject identifies a specific internal experience of the patient.

Level 2: The subject recognises the driving force of an internal experience of the patient.

Level 3: The subject identifies a result of a drive such that a casual link is made between an internal event and its resultant expression.

Level 4: The subject recognises that the motivating force in the patient is largely out of her awareness or is unconscious.

Level 5: The subject identifies conflictual components of the patient's experience.

Level 6: Subject identifies a casual link where the conflict is presented as generating an expression.

Level 7: Subject identifies a causal link where tension (fear, anxiety) is presented as motivating an expression.

Level 8: Subject recognises that the patient is engaging in a defensive manoeuvre.

Level 9: Subject recognises that despite the defensive manoeuvre, the patient remains disturbed in some way by the conflict.

The rationale for the nine levels of psychological mindedness is that “the higher levels incorporate criteria from the lower levels such that each level becomes more comprehensive and complex in its focus” (McCallum & Piper, 1997, p. 32). An

examination of the rationale for the PMAP and its scoring criteria suggests that the scale is primarily concerned with measuring the degree to which the respondent is familiar with and sympathetic to a psychoanalytic explanation for internal and external difficulties. Hence, a respondent using a cognitive-behavioural framework towards the patient's difficulties evidenced in the videotape would likely score very poorly on the PMAP. The authors concede this point, stating that "the identification of patients best suited to other therapies (e.g., cognitive-behaviour therapy) will likely require pre-therapy measures of variables that are precisely relevant to work within those orientations" (McCallum & Piper, 1990, p. 412).

In a validation study designed to assess the reliability and construct validity of the PMAP, McCallum and Piper (1990) administered the PMAP to 30 community adult participants who responded to a recruitment notice advertising for volunteers to participate in a study on 'the perception of psychotherapy'. For 15 participants whose responses were chosen randomly to be rated by a second rater, the inter-rater reliability was .69. For fifteen randomly selected participants, the results indicated that test-retest reliability was .76 over a 1-month period (McCallum & Piper, 1990). With regard to construct validity, the PMAP was significantly related to the psychological mindedness scale of the CPI ($r = .42$).

While the above results do provide some support for the procedure's construct validity, there are a number of problems with the PMAP that need to be considered. One problem is that it uses two video-taped scenarios of a woman experiencing interpersonal difficulties associated with her former husband. These types of difficulties may not be relevant or meaningful to different populations. Hence, the

ability to describe what is troubling the patient-actor may be mediated by a number of variables, such as gender, age, and culture. Secondly, the assessment procedure assumes that the ability to provide psychological explanations for other people's behaviour is congruent with psychological explanations towards the self. Finally, the PMAP does not appear to assess the interviewee's (a) self-reflection, or (b) ability to see relationships between thoughts, emotions, and behaviour, which are both important attributes of the psychological minded individual (Appelbaum, 1973; Baekeland & Lundwall, 1975). Hence, the PMAP appears to be measuring the ability to provide psychoanalytic explanations for other people's difficulties, and does not appear to tap into the essence of the psychological mindedness construct.

1.7 Chapter summary

The psychological mindedness construct has mainly been adopted and developed by psychodynamic researchers and clinicians. This chapter has described and compared the varying definitions of psychological mindedness in the literature, and addressed some of the major overarching similarities between these definitions. The relationship between psychological mindedness and psychodynamic therapy has been addressed, and conceptually related constructs and the measurement of psychological mindedness were also described. While the vast majority of clinical and research attention has been paid to psychological mindedness from a psychodynamic framework, the following chapter describes how psychological mindedness might relate to a cognitive-behavioural framework.

CHAPTER TWO

Psychological mindedness and cognitive-behaviour therapy

2.1 Introduction

One of the main features of the cognitive-behaviour therapy approach is the emphasis on the interdependence between an individual's thoughts, emotions, and behaviours (Meichenbaum, 1985). For example, in the case of depression, a negative thought about oneself might lead to a depressed emotion. In cognitive-behaviour therapy, if a client is experiencing undesirable feelings and behaviours, the therapist works with the client to identify and modify the way they think, effecting a change in both their emotions and behaviour. While there are a number of different types of cognitive-behavioural therapies, Aaron Beck's Cognitive Therapy (which also uses behavioural techniques, and is often referred to interchangeably with 'cognitive-behaviour therapy') is the most widely used and well-known (Beck et al., 1979).

This chapter will discuss the theory of Aaron Beck's cognitive therapy, treatment strategy and the efficacy of cognitive therapy. The applicability of psychological mindedness to cognitive-behaviour therapy will be explored, and a new cognitive-behavioural definition of psychological mindedness will be discussed.

2.2 Cognitive-behaviour therapy

Aaron Beck's cognitive therapy focuses on the way thoughts influence our emotions and behaviour (Beck, 1976). Cognitive therapy examines the different interpretations and meanings that people assign to situational events, in order to understand their emotional and behavioural response (Neenan & Dryden, 2000).

2.2.1 The information-processing model

The Information-Processing Model of cognitive therapy refers to the automatic processes that take place in the cognitive system (Meichenbaum, 1985). These processes refer to search and storage mechanisms, along with inferential and retrieval processes of the cognitive system. In general, we are not consciously aware of the ways in which we process information, how we determine whether a situation is threatening, or how we retrieve information. These processes are well-learned and usually take place automatically.

Beck et al. (1979) have described a number of information-processing errors in the thinking of individuals with psychological distress. These errors serve to maintain the individual's belief in the validity of his negative and dysfunctional cognitions. In the case of a depressed individual, a number of information-processing errors may take place, for example:

1. *Arbitrary Inference* refers to the process of drawing conclusions based on limited evidence to support the conclusion, or when the evidence actually contradicts the conclusion.
2. *Overgeneralisation* refers to the process of making far-reaching conclusions, based on little data, and applying the conclusion to related and unrelated situations.
3. *Magnification and minimisation* refers to the tendency to view situations or events as more or less significant in magnitude than they actually are.
4. *Dichotomous thinking* refers to the tendency to divide events or experiences into opposites, or to think in terms of extremes. For example, 'black or white', 'right or wrong' or 'good or bad'.

2.2.2 Structural organisation of thinking

Beck et al. (1979) distinguish between three levels of thinking in cognitive-behaviour therapy: (1) automatic thoughts, (2) underlying assumptions, and (3) core beliefs or 'schemas'.

2.2.2.1 Automatic thoughts

These thoughts tend to appear quickly, automatically, and involuntarily, but are not always attended to. Beck et al. (1979) suggest that automatic thoughts can be

difficult to stop, and are often completely believed, no matter how illogical or unreasonable. Automatic thoughts can also be so fleeting that the individual is only aware of the emotion they have generated (Beck, Emery, & Greenberg, 1985). While individuals can initially find it difficult to report the content of these thoughts, with some practice they can usually be recovered from memory upon request.

In the case of the depressed individual, automatic thoughts are categorised in terms of a “cognitive triad” (Beck et al., 1979, p. 11), which consists of negative and distorted views of:

- the self (e.g., ‘I’m hopeless’)
- current experience (e.g., ‘Nothing goes the way I want’)
- the future (e.g., ‘I will always be unhappy’)

In cognitive-behaviour therapy, these negative automatic thoughts can exert a strong influence on how an individual feels and behaves. In the case of a depressed individual, negative automatic thoughts tend to result in depressed affect and withdrawn behaviour.

2.2.2.2 Underlying assumptions

Underlying assumptions are often unarticulated conditional assumptions that direct our behaviour, set the standards which must be met, or provide rules that we must follow (Neenan & Dryden, 2000). The Dysfunctional Attitudes Scale (Weissman, 2000) is a 40-item self-report questionnaire designed to measure the

underlying dysfunctional assumptions of depressed individuals. Examples of such underlying assumptions include 'If a person is not a success, then his life is meaningless' or 'If I make a foolish statement, it means I am a foolish person'.

Provided that the conditions of these dysfunctional assumptions are met, the individual remains in a relatively stable emotional state. However, if these rules and assumptions are unmet or not satisfied, then negative core beliefs can be activated, and the individual becomes vulnerable to emotional distress. According to Fennel (1989), underlying assumptions can be more difficult to identify than automatic thoughts, because rather than being particular cognitive events occurring in consciousness, they tend to be generalised rules that may never have been formulated in any particular phrase or words.

2.2.2.3 Core beliefs or schemas

Core beliefs or schemas are basic attitudes or beliefs about ourselves, others, and the world that represent how we organise and structure incoming information (Williams, 1992). Beck et al. (1979, p. 12) describe schemas (or core beliefs) in the following way:

When a person faces a particular circumstance, a schema related to the circumstance is activated. The schema is the basis for molding data into cognitions (defined as any ideation with verbal or pictorial content). Thus, a schema constitutes the basis for screening out, differentiating, and coding the

stimuli that confront the individual. He categorises and evaluates his experiences through a matrix of schemas.

The themes of danger and a personal inability to cope are evident in the schemas of individuals with anxiety disorders (Wells, 1997). In the case of depression, schemas tend to be associated with themes of loss and self-devaluation (Beck, 1987). Core beliefs can be both positive ('I'm a confident person') and negative ('I'm an unworthy person'). According to Beck's cognitive theory, depressive schemas develop in our early experiences, and can shape our outlook on the world. They often remain dormant for years, but can be later activated by negative or stressful life events.

2.2.3 The interaction between thoughts, emotions, and behaviour

Cognitive-behaviour therapy focuses on changing the way we think to effect change in the way that we feel and behave. The cognitive-behaviour therapy approach also emphasises that our thoughts, emotions, behaviour, and environment are all interconnected (Beck et al., 1979; Greenberger & Padesky, 1995; Wells, 1997), as illustrated in Figure 1.

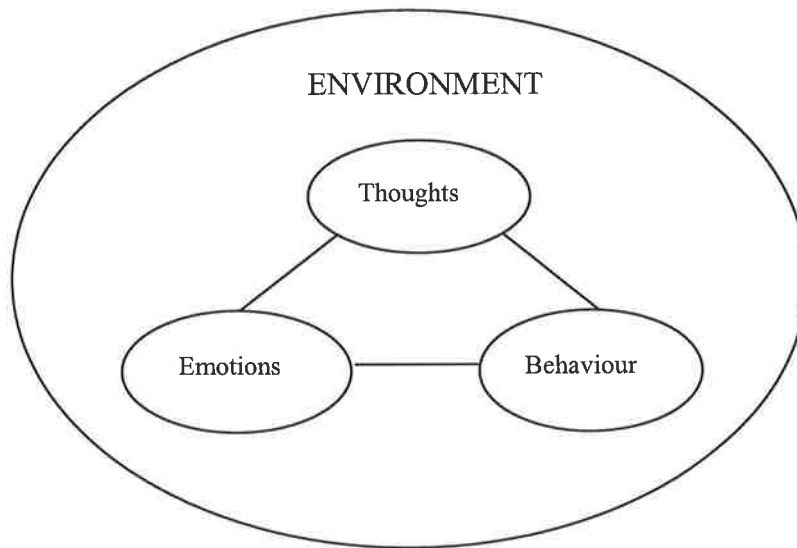


Figure 1. The interconnections between thoughts, emotions, behaviour, and environment.

As Figure 1 suggests, thoughts, emotions, behaviour, and environment all have an effect on one another (Greenberger & Padesky, 1995). For example, the way we behave can influence our thinking and our mood. Also, mood can affect our thoughts and behaviour, and could also result in a change in our immediate environment. In cognitive-behaviour therapy, intervention is often focused on examining the client's thought processes, in order to effect change in emotion and behaviour. Therefore, when a depressed client ceases to view themselves as a failure (a thought), they may begin to experience an improvement in mood, and might engage in enjoyable activities on a regular basis (a behaviour). Furthermore, such a change in behaviour may, in turn, have a positive effect on an individual's thinking, mood, and environment.

2.3 Treatment strategy in cognitive-behaviour therapy

A major aspect of cognitive-behaviour therapy is to help the client identify, reality-test, and correct maladaptive distorted thought patterns and dysfunctional beliefs. The cognitive therapist works with the client to identify and challenge negative automatic thoughts, and to replace them with more balanced, logical, and adaptive ways of thinking. One way that this is often achieved in the therapy session is through the use of a 'thought record'. The purpose of a thought record is as follows (Greenberger & Padesky, 1995):

- (1) To identify problematic situations
- (2) To identify unpleasant emotions that occur in the situation
- (3) To identify associated negative automatic thoughts
- (4) To generate evidence for and against the negative automatic thoughts
- (5) To replace negative automatic thoughts with more balanced, adaptive thoughts

When working on a thought record, the therapist will encourage the client to (a) consider the evidence for and against the negative automatic thought, (b) generate alternative thoughts, (c) consider the advantages and disadvantages of these alternative thoughts, and (d) consider what logical errors they may be making. Furthermore, the thought record helps to clarify the importance of the relationship between thoughts, emotions, and behaviours. Hence, through the use of a thought record both in the treatment session and for homework assignments, the client collaborates with the therapist to adopt a more reasonable and helpful thinking style, resulting in improved mood and more adaptive behaviour.

In addition to thought records, the therapist will often make use of behavioural experiments, which are designed to encourage the client to engage in behaviours designed to challenge belief at the automatic thought and schema levels. In addition, the therapist often teaches the client to label and identify cognitive distortions, which are biases affecting interpretations of events in a way that is consistent with the content of dysfunctional schemas (Wells, 1997). Through these and other methods, the cognitive-behavioural therapist aims to replace dysfunctional thinking with more helpful, adaptive ways of thinking, in order to effect emotional and behavioural change.

2.4 Efficacy of cognitive-behaviour therapy

Cognitive-behaviour therapy was initially developed for the treatment of unipolar depression. There is now substantial evidence that cognitive-behaviour therapy is an efficacious treatment for depression (DeRubeis et al., 2005; Elkin et al., 1989; Hollon et al., 2005; Hollon, Shelton, & Loosen, 1991), with treatment effects being comparable to pharmacotherapy (DeRubeis et al., 2005; Strunk & DeRubeis, 2001). While Beck's approach was initially developed for the treatment of unipolar depression, it has been successfully extended to a variety of psychiatric disorders, such as anxiety (Beck et al., 1985), substance abuse (Beck, Wright, Newman, & Liese, 1993), eating disorders (Wilson & Pike, 2001), schizophrenia (Scott, 2002), obsessive-compulsive disorder (Foa & Franklin, 2001), and personality disorders (Beck & Freeman, 1990).

2.5 Psychological mindedness and cognitive-behaviour therapy

While psychological mindedness has received some theoretical and empirical attention in the psychodynamic literature, it has received very little interest in the cognitive-behavioural literature. This is not surprising because most previous definitions of psychological mindedness have focused on attributes and processes that directly relate to psychodynamic therapy. However, a closer inspection of some author's conceptualisations of psychological mindedness suggests there may be some usefulness in applying this construct to the processes and outcomes of cognitive-behaviour therapy.

Appelbaum (1973) defined psychological mindedness as "a person's ability to see relationships among thoughts, feelings, and actions, with the goal of learning the meanings and causes of his experiences and behavior" (p. 36). This definition of psychological mindedness appears particularly congruent with the cognitive-behavioural model. As discussed earlier, one of the major elements of cognitive-behavioural theory is the interdependence of thoughts, emotions, and behaviours. A change in one of these elements leads to a change in another. For example, depressogenic thinking leads to sad or dysphoric mood. Cognitive-behaviour therapy involves changing the way an individual thinks and/or behaves, in order to change how they feel. Therefore, the first part of Appelbaum's definition of psychological mindedness, *the ability to see relationships among thoughts, feelings, and actions*, is an essential component of cognitive-behaviour therapy.

Another definition that is relevant to a cognitive-behavioural perspective on psychological mindedness was provided by Baekeland and Lundwall (1975), who define psychological mindedness as the “ability to see causal relationships between ideas, feelings, and behavior and to recognize and label them in the first place” (p. 767). In addition to Appelbaum’s (1973) emphasis on the relationship between thoughts, emotions, and behaviours, Baekeland and Lundwall also include the ability to recognise and label these three components. A crucial aspect of cognitive-behaviour therapy is the ability to identify thoughts, emotions, and behaviours. Without this ability, it would be extremely difficult to alter the way one thinks or behaves. In addition, the ability to see relationships between thoughts, emotions, and behaviours, requires the ability to firstly identify them.

The current work has adopted a definition of psychological mindedness that combines both Appelbaum (1973) and Baekeland and Lundwall’s (1975) definition. This new definition was not designed to integrate or encompass the broad range of definitions, rather it has been adopted for the purposes of (a) developing a cognitive-behavioural measure of psychological mindedness, and (b) applying this measure to the processes and outcomes of cognitive-behaviour therapy. The definition of psychological mindedness used in the current study is as follows:

“The ability to identify one’s thoughts, emotions, and behaviours, and see connections between them”

This definition has two components:

1. The ability to *identify* one's thoughts, emotions, and behaviours, and
2. The ability to see *connections* between one's thoughts, emotions, and behaviours.

The following section will describe how this cognitive-behavioural definition of psychological mindedness might be usefully applied to the process and outcomes of cognitive-behaviour therapy.

2.5.1 The ability to identify thoughts, emotions, and behaviours within cognitive-behaviour therapy

Analysis of the cognitive-behavioural model suggests that the ability to identify thoughts, emotions, and behaviours is an important client skill in cognitive-behaviour therapy. An important first step in cognitive-behaviour therapy involves conducting a cognitive-behavioural assessment or conceptualisation of the client's presenting problem. This assessment formulates the client's target problem and includes information about maintaining factors, such as situations, thoughts, emotions, behaviour, and physiological arousal (Kirk, 1989). In the cognitive model, the ability to identify automatic thoughts is a particularly important ability, as they often appear quickly and automatically, and are not always attended to. However, the client can learn to identify these thoughts from memory with practice and help from the therapist (Beck et al., 1979). Hence, the ability to identify thoughts, emotions, and

behaviours is an important first step in socialising clients to a cognitive-behavioural perspective on their presenting problem (Wells, 1997).

Cognitive-behavioural treatment also relies heavily on the client's ability to identify, self-monitor, and report thoughts, emotions, and behaviours. Given that cognitive-behaviour therapy involves changing the way the client thinks and behaves in order to effect emotional change, the identification of thoughts, emotions, and behaviours is particularly important. One component of cognitive-behaviour therapy involves self-monitoring as a homework assignment. For example, the therapist might ask the client to notice and keep a record of how they are thinking, feeling, and how they behave in particular situations. Hence, identifying these components is an important ability that is heavily drawn upon throughout the process of cognitive-behaviour therapy.

2.5.2 The ability to see connections between thoughts, emotions, and behaviours within cognitive-behaviour therapy

As described earlier, the cognitive-behavioural model places a strong emphasis on the interdependence between thoughts, emotions, and behaviours. Each of these components has an impact on the other two. Cognitive-behaviour therapy involves intervention at the cognitive and behavioural levels, in order to effect emotional change. The example of the thought record (Beck et al., 1979) provides an illustration of the interdependence of these components. As described earlier, when completing a thought record in relation to an emotional/behavioural problem, the client records the situation, emotion (and intensity rating), thoughts, balanced thought,

and then re-rates the emotion experienced. Deriving a balanced thought usually involves an examination of the evidence for and against the initial thought, and settling upon a thought that takes both of these into account. As can be seen from the process of completing a thought record, a close link is made between how clients think and feel. Therefore, the ability to identify and see the connections between thoughts, emotions, and behaviours (eg., demonstrate psychological mindedness) appears to be an important ability for the client engaged in cognitive-behaviour therapy.

2.6 The potential clinical utility of a cognitive-behavioural measure of psychological mindedness

While psychodynamically-oriented clinicians and researchers have emphasised the importance of psychological mindedness to assess patient suitability for psychodynamic therapy, little attention has been given to how the construct relates to cognitive-behaviour therapy. It is suggested that pre-therapy psychological mindedness might predict positive outcome in cognitive-behaviour therapy for a range of psychiatric disorders. Only one study has examined pre-therapy psychological mindedness as a predictor of outcome in cognitive-behaviour therapy. Kadish (1999) explored whether psychological mindedness in socially phobic adults predicted cognitive-behaviour therapy outcome. Kadish found that psychological mindedness did not predict a positive response to cognitive-behaviour therapy, although one factor of the Psychological Mindedness Scale (PMS; 'Interest in the Meaning and Motivation of Own and Other's Behaviour') did predict outcome. A limitation of this study is that the PMS was used as the measure of psychological mindedness, which

was originally developed to predict patient suitability for psychodynamic therapy. Hence, there was an incongruence between the theoretical rationale of therapy compared with the measure of psychological mindedness utilised.

If psychological mindedness were found to be predictive of cognitive-behaviour therapy outcome, pre-therapy screening could identify clients who are less psychologically minded, and therefore less likely to benefit from cognitive-behaviour therapy. In such a case, it is suggested a therapist could either (a) provide additional early psychoeducation about the relationship between thoughts, emotions, and behaviours, (b) focus more on behavioural methods of intervention, or (c) give priority to clients who are more likely to benefit from cognitive-behaviour therapy.

As discussed by McCallum and Piper (1997), inherent in much of the discussion on psychological mindedness is the assumption that it is relatively stable. However, it is possible that a client's level of psychological mindedness might increase as a result of engaging in cognitive-behaviour therapy. Given the strong emphasis in cognitive-behaviour therapy placed on identifying and seeing connections between thoughts, emotions, and behaviours, it is possible that clients' psychological mindedness ability might increase over time. An implication of a client with low psychological mindedness not improving over the course of cognitive-behaviour therapy could indicate that the therapist might need to focus more on fundamental psychoeducation that constitutes the early stages of cognitive-behaviour therapy.

2.7 A new cognitive-behavioural measure of psychological mindedness

This dissertation will describe the development and validation of a new Cognitive-Behavioural Measure of Psychological Mindedness (CB-PM). The new measure was based on the cognitive-behavioural definition of psychological mindedness as “the ability to identify one’s thoughts, emotions, and behaviours, and see connections between them”. Reflecting this definition, the CB-PM is a cognitive-behavioural structured interview that derives an ability-based score of psychological mindedness. The development and rationale for the CB-PM is discussed in the following chapter.

2.7.1 Rationale for the first study

The aim of the first empirical investigation was to determine the psychometric properties and validate the new Cognitive-Behavioural Measure of Psychological Mindedness (CB-PM) in a non-clinical, undergraduate student population. To determine its convergent and discriminant validity, the CB-PM was administered along with the Psychological Mindedness Scale (Conte et al., 1996), the Toronto Alexithymia Scale-20 (Bagby, Parker, & Taylor, 1994), The Self-Reflection and Insight Scale (Grant et al., 2002) and the NEO-Five Factor Inventory (McCrae & Costa, 1999).

2.7.2 Rationale for the second study

Two limitations of the first study were that the measures used to validate the CB-PM were (a) self-report, relying on the respondent's self-perception, and (b) either atheoretical or from a psychodynamic framework. The second study addressed these limitations by comparing the CB-PM with three cognitive-behavioural, ability-based measures that were theoretically expected to be associated with psychological mindedness. These measures were (1) the Thought Record Skills Assessment (Neimeyer & Feixas, 1990), designed to measure an individual's competence in completing a thought record consistent with Beck's cognitive-behavioural theory of psychopathology (Beck et al., 1979), (2) the discriminating between thoughts, emotions, behaviours, and bodily sensations scale (D-TEBBS), and (3) the identifying connections between thoughts, emotions, behaviours, and bodily sensations scale (C-TEBBS). The latter two measures were designed by the author specifically for the purpose of validating the CB-PM.

2.7.3 Rationale for the third study

The third study extended the first and second studies by providing further validation to the CB-PM in a depressed population while also exploring important hypotheses about the role of psychological mindedness in cognitive-behaviour therapy. The aims of the third study were threefold: (1) to further investigate the psychometric properties of the CB-PM in a depressed population, (2) to test the predictive validity of the CB-PM to predict positive outcome in cognitive-behaviour therapy for depression, and (3) to test the sensitivity to change of the CB-PM.

Measures of psychological mindedness, alexithymia, working alliance, and treatment outcome were administered to a depressed population before and after cognitive-behaviour therapy, and to a depressed waiting-list control group.

CHAPTER THREE

The development of a cognitive-behavioural measure of psychological mindedness

3.1 Introduction

This chapter describes the development of the Cognitive-Behavioural Measure of Psychological Mindedness (CB-PM; see Appendix A). The first section of the chapter discusses how the measure was developed in the style of a cognitive-behavioural assessment. The remainder of the chapter discusses each item of the CB-PM, including (a) a rationale for how each item measures psychological mindedness, (b) how each item is related to the techniques and processes of cognitive-behaviour therapy, and (c) the individual scoring of each item.

3.2 Cognitive-behavioural assessment and the measurement of psychological mindedness

The purpose of a cognitive-behavioural assessment is to develop a formulation of the client's target problem and to have detailed information about factors maintaining the problem in order to design a treatment plan (Kirk, 1989). These maintaining factors could be situational, behavioural, cognitive, affective, interpersonal, or physiological. According to Kirk, during a cognitive-behavioural assessment, the client is "asked about situations, physiological states, cognitions, interpersonal factors, as well as overt behaviour, and about how each of these groups of variables relates to the problem" (p. 14). The cognitive-behavioural assessment

procedure provides a template for the cognitive-behavioural measurement of psychological mindedness. A simple example of information gathered during a cognitive-behavioural assessment might be as follows:

When Jane walked through the front door and into the lounge where her best friend's party was being held (situation), she thought to herself: "everyone is staring at me" (thought), she felt anxious (emotion), her heart was racing (bodily sensation), and she immediately left the room (behaviour).

As can be seen from this example, a cognitive-behavioural assessment gathers information about the problem behaviour or emotion, and includes information about factors (such as situations, thoughts, and behaviours) that serve to maintain the problem.

There are two major components of a cognitive-behavioural assessment that influenced the design of the CB-PM structured interview:

1. Information is gathered in relation to particular *situations* that the client has previously experienced, and
2. The nature of the information gathered conforms to the cognitive-behavioural model. That is, the responses provided by the client are elicited and interpreted in terms of thoughts, emotions, bodily sensations, and behaviours.

By using the structure of a cognitive-behavioural assessment, the CB-PM structured interview generates responses reflecting an individual's ability to identify and see connections between thoughts, emotions, and behaviours in relation to particular situations. That is, scores derived from the CB-PM are designed to reflect the client's level of psychological mindedness.

3.3 Item development of the CB-PM

The CB-PM is a structured interview whereby the administrator asks the respondent a series of questions about their thoughts, emotions, bodily sensations, and behaviours that occur in relation to three different situations. The questions are firstly asked in relation to the first situation, then the second, and finally the third. There are twelve scored questions asked in relation to each of the three situations, generating a total of 36 questions. Each response given to a question is scored as either 0, 1, or 2, according to the set criteria described below. A final psychological mindedness score is calculated by summing all questions of the CB-PM, with higher scores representing higher levels of psychological mindedness.

3.3.1 Identification of situations

The structured interview begins with the administrator describing the following to the respondent:

“I would like to ask you some questions about how you respond to certain situations. So, if you could read the [first, second, or third] situation to yourself, and try to think of a time when something like this has happened to you.”

The three situations are illustrated in Figure 2.

<p>The Situations.</p> <ol style="list-style-type: none">1. Someone gets on your nerves. They may be critical or bossy or maybe you have to be with someone you don't like. So, <i>the first situation is being with someone who gets on your nerves.</i>2. An unpleasant experience from the past that didn't go the way you wanted.3. You are kept waiting without explanation, or someone doesn't do what they said they would do. So, <i>the third situation is being let down by someone.</i>

Figure 2. The three situations of the CB-PM.

After the respondent has indicated that the situation has happened to them, how long ago, and how often it happens, they are prompted to briefly describe the particular situation they have remembered in a few sentences. It should be noted that the identification of a situation is not one of the scored questions, rather it is a check to see that a situation has been identified in order to follow up with cognitive, emotional, and behavioural responses.

The use of particular situations is often a reference point for a cognitive-behavioural conceptualisation of how an individual thinks, feels, and behaves. Albert

Ellis' (2003) A-B-C (Antecedents, Beliefs, and emotional/behavioural Consequences) analysis starts with antecedents, which are often external situational antecedents. While antecedents can often include internal triggers (e.g., intrusive thoughts or emotional responses), situations are a useful starting point as they are the chronological beginning of a number of internal and external phenomena that follow, such as difficult thoughts, emotions, behaviours, and bodily sensations. Given that psychological mindedness refers to an individual's ability to identify their thoughts, emotions, and behaviour, and see connections between them, this situational item of the CB-PM is used primarily as a grounding or reference point for the respondent to identify these thoughts, feelings, and behaviours in relation to a particular situation, and to see the connections between them.

In the CB-PM, each situation elicited is designed to be associated with an emotional response. For example, the first situation prompts the respondent to think of a time when someone got on their nerves. Such a situation could elicit a number of emotional responses, such as anxiety, annoyance, irritation, or anger. According to Linehan (1993, p. 149), "learning to identify an emotional response is aided enormously if one can observe and describe...the *event* [italics added] prompting the emotion". Similarly, in the context of conducting a cognitive-behavioural assessment, Ledley, Marx, and Heimberg (2005) state that "a good place to start is with situations and events that bring on the problematic thoughts and behaviors" (p. 42). To further clarify the nature of a particular situation, it can be helpful for clients to ask themselves (a) who they were with, (b) what were they doing, (c) when did it happen, and (d) where they were (Greenberger & Padesky, 1995). For example, in the case of panic disorder a client might find they experience panic symptoms on the bus or in

crowded places. Understanding the particular nature of a situation places the client and therapist in a better position to understand cognitive, emotional, and behavioural responses.

Persons and Davidson (2001) provide the following three reasons why it is important to include external events and situations in a cognitive-behavioural assessment:

1. Cognitive-behavioural theory suggests that psychopathological symptoms are not only due to internal events (eg., thinking patterns, emotional/behavioural responses, etc.), but they arise from the activation (by situations) of particular schemata. That is, one would expect there to be a close relationship between schemata and the activating event or situation. Persons and Davidson (2001) suggest that an individual who believes a thought like 'I must be successful in order to be a worthwhile person', would be vulnerable to depressed affect when they are confronted with a situation that suggests the person has failed at something. Hence, the therapist can gain some insight into the client's schemata by examining the types of situations that play a role in their activation.
2. A thorough analysis of problematic situations can be helpful in the design of a therapist's intervention. This is particularly the case as interventions are more likely to be effective if they can be utilized and behaviourally tested in the problematic situations identified. That is, more adaptive ways of thinking and skills learnt during therapy are most likely to be helpful for

the client if they demonstrate a new cognitive/behavioural response in the face of particular situations.

3. While cognitive-behavioural theory itself is concerned with changing the way an individual thinks in order to change emotional/behavioural responses, Persons and Davidson (2001) suggest that changing the situation itself can also be helpful, and they conceptualise activity-scheduling interventions in this way. Persons and Davidson provide the example of an engineer who functions poorly in an isolated and independent work environment, as opposed to working as part of a team. Part of an intervention designed to improve this person's depression might involve encouraging them to take assertive action that will result in a more suitable and effective work environment.

In summary, the identification of situations that elicit cognitive, emotional, and behavioural responses are a good grounding point for exploring the respondent's level of psychological mindedness.

3.3.2 Identification of emotions

Item question: "What emotions are you likely to feel when you are in this situation?"

The ability to identify one's thoughts, *emotions*, and behaviours is the first aspect of the definition of psychological mindedness used in the current work. Identifying different emotions that occur in particular situations is a key aspect of

both cognitive-behavioural assessment and therapy. After the client has described and recorded a problematic situation as part of a cognitive-behavioural assessment or a thought record, the next step is to identify, describe, and record the emotions they experienced in that situation. According to Needleman (1999), it is useful to identify emotions before automatic thoughts because individuals are typically better able to detect changes in way they are feeling before they notice their automatic thoughts. Needleman suggests that it is actually the appearance or intensification of problematic emotions that often prompts clients to become aware that they are having an automatic thought. In this way, emotions can provide clients with clues for identifying the content of their automatic thoughts.

Given that one of the key aims of cognitive-behaviour therapy is to modify the client's thinking in order to bring about emotional change, the importance of correct identification of emotion cannot be overstated. In relation to depression, Beck et al. (1979) sum this up best by stating that "since an essential part of the cognitive therapy of depression is to establish the connection between an unpleasant emotion and the antecedent cognitions or the prevailing attitude, it is obviously essential to focus on and discriminate the patient's emotional reactions" (p 36). In case of the treatment of depression, it would be very difficult to improve a client's depressed mood through cognitive restructuring if they cannot identify and distinguish between different emotions. For example, a client who reported feeling depressed in a given situation when in fact they were experiencing anger, may not experience an improvement in depressed mood through the therapist's targeting of associated thinking patterns. This is because the thinking pattern associated with the anger emotion may not tap into

depressogenic thinking and as a consequence, unidentified depressed thoughts and emotions would remain intact.

Scoring

The scoring procedure used for the identification of emotions is detailed in Figure 3.

<p><u>0 Points:</u></p> <p>No Emotion words.</p> <p><u>1 Point:</u></p> <p>One Emotion word, <i>or</i> Two Emotion words but with excessive reference to thinking or behaviour.</p> <p><u>2 Points:</u></p> <p>Two Emotion words without excessive reference to thinking or behaviour.</p>
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Figure 3. Scoring procedure for identification of emotions item.

The scoring criteria for this item reflects the respondent being awarded points for the number of emotion words used, up until describing two emotions. The only exception to this rule is when the respondent provides an answer that contains excessive descriptions of how they thought and/or behaved during the situation to the point where the focus of the respondent's response is not on an emotional response, but on thinking and/or behaviour. However, if the respondent provides two emotion words but also mentions in passing a justification for that emotion (e.g., 'I was

anxious and angry because he was an hour late'), then they can still receive two points.

3.3.3. Identification of bodily sensations

Item Question: "Where in your body would you be aware of this emotion?"

While there is no general agreement among emotion theorists as to a precise definition of emotion, there is some consensus that emotional responding in humans follows three general sets of processes (Taylor et al., 1997, p. 8): "(1) neurophysiological processes (largely autonomic nervous system and neuroendocrine activation); (2) motor or behavioural-expressive processes (e.g. facial expressions, crying, changes in posture and tone of voice); and (3) a cognitive-experiential system (subjective awareness and verbal reporting of feeling states)". Hence, there is a physiological component to the experience of emotion that is experienced as particular bodily sensations.

Davitz (1969) collected accounts of the subjective experience of different emotional experiences and found that perceived bodily reaction was important in defining the quality of each emotion. Consistent with this, Linehan (1993) indicates that another factor aiding the identification of an emotional response is being able to observe and describe "the phenomenological experience, including physical sensation, of the emotion" (p. 149). Hence, identifying bodily sensations will likely clarify emotional experience and so provide important information for both therapist and client in learning ways to identify and modify the antecedents to such emotion.

Hence, the ability to identify bodily sensations was included in the measurement of psychological mindedness because it is a physiological aspect of emotion and its identification can be helpful to clarify an emotional response.

The presence of bodily sensations can be an important factor in the development and maintenance of some psychiatric conditions, particularly anxiety disorders. For example, Clark's (1986) model of panic suggests that a circular sequence of events leads to panic. In this model, panic attacks occur as a result of catastrophic misinterpretations of bodily or cognitive events. These events are misinterpreted as a sign of impending disaster, such as having a heart attack, suffocating, or collapsing. For example, a bodily sensation such as elevated heart rate might be misinterpreted as a sign of an imminent heart attack, and this misinterpretation can result in further anxiety and associated physical/cognitive symptoms in a vicious cycle of panic symptoms. Hence, the identification and description of bodily sensations can be an important component in understanding the development and maintenance of anxiety disorders in cognitive-behaviour therapy.

Scoring

The scoring procedure used for the identification of bodily sensations item is presented in Figure 4.

<p><u>0 Points:</u></p> <p>No Bodily sensations</p> <p><u>1 Point:</u></p> <p>A plausible, but somewhat vague answer.</p> <p><u>2 Points:</u></p> <p>A plausible and specific description of one or more bodily sensations.</p>

Figure 4. Scoring procedure for the identification of bodily sensations item.

The scoring procedure described in Figure 4 is designed to allocate more points to responses that provide plausible and specific descriptions of one or more bodily sensations. Zero points are awarded to respondents who cannot identify any bodily sensations, or describe a bodily sensation that is not plausible or is particularly incoherent. One point is awarded for a vague reference to a bodily sensation (eg., ‘my stomach feels bad’). Two points are awarded to respondents who provide a plausible and specific description of a bodily sensation (eg., ‘I get butterflies in my stomach’).

3.3.4 Identification of behaviour

Item Question: “How are you likely to behave in response to this situation?”

As discussed earlier, the measurement of psychological mindedness includes an individual’s ability to identify their thoughts, emotions, and behaviours. Hence,

this item is concerned with measuring the respondent's ability to identify and describe their own behaviour.

Given that behavioural responses can be both a feature of psychiatric disorders (e.g., performing compulsive rituals in obsessive compulsive disorder) as well as exacerbate existing problems (e.g., a depressed person spending the day in their room), the identification and labelling of behaviour is an important component of cognitive-behaviour therapy. Consistent with this, Linehan (1993) suggests "describing behaviour and its patterns is an essential part of any psychotherapy" (p. 235). Some individuals, for example those with borderline personality disorder, are notably unaware of both their own behaviour as well as the effects of their behaviour on others (Linehan, 1993). Therefore it can be quite difficult for these clients to identify how their own behaviour is exacerbating their current difficulties.

Watson and Tharp (1997) suggest that in order to change one's behaviour, it is essential to take into consideration both "1. The specific behaviours to be changed, and 2. The specific situations in which they occur" (p. 32). In order to change problematic behaviour, it must first be identified and well-defined if intervention strategies are to be helpful. That is, if a behaviour is not well understood both in terms of its nature (e.g., its frequency, duration, and intensity) and antecedents (e.g., thoughts), then cognitive-behavioural intervention will be difficult. Linehan (1993) suggests the identification and labeling of objective behaviour can be taught through the use of a number of behaviour analytic strategies.

According to Wells (1997), behavioural reactions can be an important influence in the maintenance and exacerbation of psychiatric dysfunction. Safety behaviours are subtle and covert responses that are intended to avert feared events (Salkovskis, 1991). For example, individuals with panic disorder who believe they are about to collapse might try a relaxation strategy to prevent this perceived disaster. Although safety behaviours like this one might reduce anxiety, they are often counterproductive because they “maintain preoccupation with threat and prevent unambiguous disconfirmation of dysfunctional thoughts and assumptions” (Wells, 1997, p. 6). When developing a case conceptualisation, particularly in relation to anxiety disorders, the identification and description of safety behaviours is important as they provide examples of counterproductive behavioural responses that will be a focus for modification and intervention. Therefore, the identification of one’s behaviour (in this case, safety behaviours) is an important part of cognitive-behaviour therapy.

Scoring

The scoring procedure in Figure 5 reflects the allocation of points based on (a) whether the respondent was able to describe a behaviour and (b) whether the description of their own behaviour was achieved without excessive reference to thoughts, emotions, or other people’s behaviour. If the behaviour was described without excessive reference to thoughts, emotions, or other people’s behaviours (e.g., ‘I left the room because I felt embarrassed’), then respondent will receive the full two points. If the behaviour was described with excessive reference to other experience to

the point where their behavioural response is no longer the major focus, they receive one point.

<p><u>0 Points:</u></p> <p>No behaviour described</p> <p><u>1 Point:</u></p> <p>One or more behaviours described but with excessive reference to thoughts, emotions, or other people's behaviour.</p> <p><u>2 Points:</u></p> <p>One or more behaviours described without excessive reference to thoughts, emotions, or other people's behaviour.</p>

Figure 5. Scoring procedure for the identification of behaviour.

3.3.5 Identification of thoughts

Item Question: “What thoughts are likely to go through your mind while in this situation?”

This item measures the respondent's ability to identify the thoughts that were going through their mind in relation to the situation they described. The identification of thoughts is included in the measurement of psychological mindedness, as it is a component of the ability to identify thoughts, emotions, and behaviours.

Linehan (1993) describes another factor that aids the identification of an emotional response as the ability to observe and describe “the interpretations of the event that prompt the emotion” (p. 149). This is the B (belief) component that is subject to intervention in Ellis’ (2003) A-B-C paradigm of cognitive therapy. As Kirk (1989) describes, “the first, and perhaps central principle of cognitive-behavioural assessment is that the ways in which an individual behaves are determined by the immediate situation, *and the individual’s interpretations of them* [italics added]” (p. 13).

According to Beck et al. (1979), “the most critical stage of cognitive therapy involves training the patient to observe and record his cognitions” (p. 146). Given that a major component of cognitive-behaviour therapy involves changing the way a client thinks and interprets their experience, an accurate identification and description of automatic thoughts is an essential component of therapy. Without agreement between therapist and client on what constitutes the relevant cognitions to be studied, examined, and challenged, “meaningful and therapeutic communication will be limited” (Beck et al., 1979, p. 146). If the client is unable to identify and describe the automatic thoughts that occur in problematic situations, emotional and behavioural change will be difficult. The cognitive antecedents will remain unchanged and will be readily triggered again when the client is in an activating situation, resulting in problematic emotion and/or behaviour.

Figure 6 illustrates some helpful questions the client can ask of themselves when trying to determine the content of their automatic thoughts.

- What is going through my mind right now in this situation?
- What does this situation mean to me or to my life?
- What is most upsetting about this situation?
- What thoughts or images make me feel this way (sad, anxious, angry, etc.) in this situation?

Figure 6. Cognitive probes as part of cognitive-behaviour therapy.

Needleman (1999) suggests that clients often have difficulties recognising their automatic thoughts, and that by considering the questions posed in Figure 6, they can learn to better identify and record these thoughts. Similarly, Beck et al. (1979) state that “the training in the observation and recording of cognitions makes the patient aware of the occurrence of images and self-verbalizations (‘streams of thought’). The therapist trains the patient to identify distorted and dysfunctional cognitions” (p. 146). These comments suggest that the ability to identify and describe automatic thoughts is an ability that can be improved and cultivated through the process of cognitive-behaviour therapy.

Scoring

The scoring procedure used for the identification of thoughts is displayed in Figure 7.

<p><u>0 Points:</u></p> <p>No thoughts</p> <p><u>1 Point:</u></p> <p>One Thought, <u>or</u> Two Thoughts but with excessive reference to emotions or behaviour.</p> <p><u>2 Points:</u></p> <p>Two Thoughts without excessive reference to emotions or behaviour.</p>

Figure 7. Scoring procedure for the identification of thoughts.

The scoring criteria for the identification of thoughts reflects the respondent being awarded points for the number of thoughts described, up until a maximum of two thoughts. The exception to this is when the respondent provides an answer that contains excessive descriptions of emotions or behaviour during the situation to the point where the focus of the respondent's response is not on their thinking, but on emotions and/or behaviour. If the respondent describes two thoughts but mentions in passing other emotional/behavioural responses they experienced (e.g., 'I thought he was cruel. I also thought he was judging me, so I felt angry'), then they can still receive two points.

3.3.6 Identifying the connection between thoughts and distressing emotion

Item Question: “Can you give me an example of a thought you could have about this situation that might make you feel more distressed?”

The measurement of an individual’s ability to see the connection between their thoughts and emotions is integral to the measurement of psychological mindedness, as it is currently defined. In particular, this item looks at how unhelpful thoughts lead to distressed emotion. An example of such a relationship might be a client who recognises that when they think “I’m a boring person”, they experience depressed emotion shortly after. This relationship between thinking and emotion is fundamental to the cognitive-behavioural model, as described below.

Taking the example of a thought record that is used to modify dysfunctional cognitions, the client is asked to identify thoughts that are associated with particular emotions. According to Wells (1997), the thought record offers “a means by which the individual can develop an awareness of the links between thoughts and feelings” (p. 63). In the case of depression, it is important that the client understands that negative, self-defeating cognitions and interpretations lead to depressed mood. Similarly, it is important for an individual with social phobia to understand that their automatic thoughts about perceived social danger increase anxiety symptoms. By demonstrating an understanding of how dysfunctional thinking exacerbates emotional difficulties, the client is in a better position to modify their thinking in particular contexts, resulting in a reduction in emotional symptomatology.

Scoring

The scoring procedure used for the identification of the connection between unhelpful thoughts and distressing emotion, is described in Figure 8.

<p><u>0 Points:</u></p> <p>No plausible thought</p> <p><u>1 Point:</u></p> <p>A plausible, but vague thought that is consistent with a more distressing emotion, <u>or</u> A plausible, specific thought that is somewhat consistent with a more distressing emotion.</p> <p><u>2 Points:</u></p> <p>A plausible, specific thought that is consistent with a more distressing emotion.</p>
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Figure 8. Scoring procedure for the identification of the connection between unhelpful thoughts and more distressing emotion.

The scoring procedure described in Figure 8 reflects the allocation of points based on (a) the description of the thought being specific, rather than vague, and (b) the description of the thought being consistent with experiencing a more distressing emotion. In relation to the latter point, responses need to reflect the ability of the respondent to see a relationship between their thinking and a more distressing emotion. For example, a response such as “if I thought that she did it deliberately just to get at me, then it would make me feel more angry” would receive two points because the thought is logically consistent with a more distressing emotion.

Conversely, a response with inconsistent thoughts and emotions (for example, “if I thought that she did it deliberately just to get at me, I’d feel more calm”), would only receive one point.

3.3.7 Identifying the connection between distressing thoughts and behaviour

Item Question: “How might this thought influence your behaviour?”

This item of the CB-PM measures the respondent’s ability to see how their thoughts influence their behaviour. In particular, it looks at the effect that distressing thinking (from the previous question) might influence behaviour. This item is integral to the measurement of psychological mindedness as it is a component of the ability to see connections between thoughts, emotions, and behaviours.

The influence of thinking on an individual’s behaviour is an important component of the cognitive model of psychopathology. Clients involved in cognitive-behaviour therapy can sometimes find it difficult to see the relationship between thinking and their behaviour because much of their behaviour seems automatic (Greenberger & Padesky, 1995). However, an analysis of cognitive antecedents to ineffective behavioural responses can provide important information to help modify such behaviour. Furthermore, unhelpful or dysfunctional behaviours can help maintain psychopathological symptoms. For example, a depressed person who thinks to themselves “I’m boring, why would anyone want to spend time with me?” might be more likely to stay in their bedroom alone rather than attempting to make social contact. Such withdrawing behaviour in turn exacerbates depressed mood and leads

to further depressogenic thinking. Hence it is important that a client engaged in cognitive-behaviour therapy understand the relationship between dysfunctional thinking and ineffective behavioural responses so that identification and modification of these thinking patterns can be made.

Scoring

The scoring procedure used to identify the connection between distressing thoughts and behaviour is described in Figure 9.

The scoring procedure described in Figure 9 reflects the allocation of points for responses that demonstrate an ability to identify the effect that particular ways of thinking has on behaviour. For example, if the respondent answered “if I thought he was late because of a car accident, I would phone to make sure he was ok”, they would receive two points because the described behavioural response is consistent with the distressing thought. However, if the behaviour described was only somewhat consistent with the distressing thought, the respondent would receive one point.

0 Points:

No plausible behaviour

1 Point:

A behavioural response that is somewhat consistent with a distressing thought.

2 Points:

A behavioural response that is consistent with a distressing thought.

Figure 9. Scoring procedure for the identification of the connection between distressing thoughts and behaviour.

3.3.8 Identifying the connection between thoughts and less distressing emotion

Item Question: “Can you give me an example of a thought you could have about this situation that might make you feel less distressed?”

As with the ‘identifying the connection between thoughts and distressing emotion’ item, this question assesses the respondent’s ability to see the connection between thoughts and emotion. However, this item addresses how more helpful thoughts can lead to less distressing or improved emotion. This question is integral to the cognitive-behavioural measurement of psychological mindedness as it is an aspect of seeing the connection between thoughts, emotions, and behaviours.

The relationship between more helpful thoughts and less distressing emotions is particularly important, as the techniques used in cognitive-behavioural intervention

(such as verbal reattribution and behavioural experiments) aim to effect a change towards more helpful ways of thinking in order to reduce distressing emotion. Hence, the relationship addressed in this question reflects the client's ability to see that a different way of thinking is possible and that such thinking will result in better emotional outcomes.

Scoring

The scoring procedure used for the identification of the connection between thoughts and less distressing emotion is described in Figure 10.

<p><u>0 Points:</u></p> <p>No plausible thought</p> <p><u>1 Point:</u></p> <p>A plausible, but vague thought that is consistent with a less distressing emotion, <u>or</u> A plausible, specific thought that is somewhat consistent with a less distressing emotion.</p> <p><u>2 Points:</u></p> <p>A plausible, specific thought that is consistent with a less distressing emotion.</p>
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Figure 10. Scoring procedure for the identification of the connection between thoughts and less distressing emotion.

The scoring procedure described in Figure 10 reflects the allocation of points based on (a) the description of the thought being specific, rather than vague, and (b) the description of the thought being consistent with the emotion experienced. The

thought described must be consistent with a less distressing emotional response. An example of this might be a response like “If I thought he didn’t call because he was too busy with work commitments, rather than just ignoring me, then I’d feel more relaxed” would receive two points because the thought is logically consistent with the less distressing emotion (ie., feeling relaxed). Conversely, a response with inconsistent thoughts and emotions (for example, “If I thought he didn’t call because he thought I was stupid and boring, then I’d be more relaxed”), would only receive one point.

3.3.9 Identifying the connection between helpful thoughts and more effective behaviour

Item Question: “How might this thought influence your behaviour?”

This question assesses the respondent’s ability to see the connection between helpful ways of thinking and more effective behaviour. The ability to see connections between thoughts and behaviours is integral to the cognitive-behavioural measurement of psychological mindedness. The impact that more helpful ways of thinking has on behaviour is important because a key aspect of cognitive-behaviour therapy is to change the client’s thinking in relation to particular antecedents and situations in order to effect important behavioural change and reduce psychopathological symptomatology.

Scoring

The scoring procedure used to identify the connection between helpful thoughts and more effective behaviour is described in Figure 11.

<p><u>0 Points:</u></p> <p>No plausible behaviour</p> <p><u>1 Point:</u></p> <p>A behavioural response that is somewhat consistent with a helpful thought.</p> <p><u>2 Points:</u></p> <p>A behavioural response that is consistent with a helpful thought.</p>

Figure 11. Scoring procedure for the identification of the connection between helpful thoughts and more effective behaviour.

The scoring procedure described in Figure 11 reflects the allocation of points for responses that demonstrate an ability to identify the effect that particular ways of thinking has on behaviour. This item assesses the ability of the respondent to identify the relationship between more helpful thinking and more effective behaviour. For example, if the respondent answered “If I thought he didn’t call because he was too busy with work commitments, rather than just ignoring me, then I’d give him a call to see what time he finishes”, then they would receive two points because the described behavioural response is consistent with the helpful thought. However, if the

behaviour described was only somewhat consistent with the helpful thought, the respondent would receive one point.

3.3.10 Identification of distal antecedents leading to a more distressed emotion

Item Question: “Can you think of anything about your experiences in life that might lead you to be particularly distressed by this type of situation?”

This question addresses the respondent’s ability to identify distal antecedents that might lead them to experience the identified situation as more distressing. Distal antecedents can be any number of external events, interpretations and thoughts, and emotional or behavioural responses occurring in the more distant past that might relate in some way to the current situation being considered (Kirk, 1989). While the identification of possible distal antecedents does not directly ask the respondent to identify or see connections between thoughts, emotions, and behaviour, it is included in the CB-PM because it is likely to elicit identification and description of patterns of thoughts, emotions, or behaviours occurring in the respondent’s experiences.

Understanding distal antecedents (occurring in an individual’s past) to problematic emotions and behaviour can be helpful in conceptualising the context within which a problem developed. A distal antecedent may provide very clear information about the development of a particular problem. For example, a spider phobia may have developed after being bitten by a spider. However, it is often the case that the effect of distal antecedents on the current problem is not as straightforward and Kirk (1989) suggests that “for many patients, the problem will

have developed gradually, with a succession of events contributing to the patient's recognition that there is a problem" (p. 21). Although the focus of cognitive-behaviour therapy is on the current thoughts, emotions, and behaviours of the client, an understanding of distal antecedents provides the therapist and client with a better understanding of current and potential future difficulties to be faced.

An understanding of early learning experiences and distal antecedents can be particularly helpful in the case of the cognitive-behavioural treatment of depression. Beck et al. (1979) state that "early life experiences provide the basis for forming negative concepts about one's self, the future, and the external world" and suggest that "these negative concepts (schemas) may be latent but can be activated by specific circumstances which are analogous to experiences initially responsible for embedding the negative attitude" (p. 16). Hence, an understanding of distal antecedents to the problem - whether they be situations, thoughts, emotions, or behaviours - will provide useful information for the client and therapist about the nature of current schemata and also the circumstances under which they are likely to be activated.

Scoring

The scoring procedure used for the identification of distal antecedents leading to a more distressing emotion is described in Figure 12.

0 Points:

No distal antecedents

1 Point:

Distal antecedent situation identified, but with little or no description of plausible and related thoughts, emotions, or behaviours.

2 Points:

Distal antecedent situation identified with a clear description of plausible and related thoughts, emotions, or behaviours.

Figure 12. Scoring procedure for the identification of distal antecedents.

The scoring procedure described in Figure 12 reflects the allocation of points for (a) the identification of distal antecedent situations, and (b) a clear description of plausible and related thoughts, emotions, or behaviours. Responses that meet both these criteria receive the full two points. Consider the following response:

“People turning up late has always made me feel depressed. When I was eight, my dad would always be late picking me up from basketball practice (distal antecedent situation). I would sit there after everyone else had gone home and wonder if he really cared about me (a thought). It’d make me feel really sad (an emotion)”

This response would receive the full two points because it includes both a distal antecedent situation, along with related thoughts, emotions, or behaviours (in this case, both a thought and an emotion were identified). If the respondent were able

to identify a distal antecedent situation, but could not provide a plausible and related response to the situation, they would receive one point. An example of a one point response might be “*When I was eight, my dad would always be late picking me up from basketball practice*”, because it contains a distal antecedent situation in the absence of related thoughts, emotions, or behaviours.

3.3.11 Identification of distal antecedents leading to a less distressed emotion

Item Question: “Can you think of anything about your experiences in life that might lead you to be less distressed by this type of situation?”

This question addresses the respondent’s ability to identify distal antecedents that might lead them to experience the identified situation as less distressing. As described in the previous question, distal antecedents can be any number of external events, interpretations and thoughts, and emotional or behavioural responses occurring in the more distant past that might relate to the current situation being considered. While the identification of possible distal antecedents does not directly ask the respondent to identify or see connections between thoughts, emotions, and behaviour, it is included in the CB-PM because it is likely to elicit description of thoughts, emotions, or behaviours occurring in the respondent’s past that might relate to the current situation.

Scoring

The scoring procedure used for the identification of distal antecedents leading to a less distressing emotion is described in Figure 13.

<p><u>0 Points:</u></p> <p>No distal antecedents</p> <p><u>1 Point:</u></p> <p>Distal antecedent situation identified, but with little or no description of plausible and related thoughts, emotions, or behaviours.</p> <p><u>2 Points:</u></p> <p>Distal antecedent situation identified with a clear description of plausible and related thoughts, emotions, or behaviours.</p>

Figure 13. Scoring procedure for the identification of distal antecedents.

The scoring procedure described in Figure 13 is the same as the previous question, and reflects the allocation of points for the identification of distal antecedent situations, and a clear description of plausible and related thoughts, emotions, or behaviours. Responses that meet both these criteria receive the full two points.

3.3.12 Identification of proximal antecedents

Item Question: “What might you notice immediately before becoming distressed about the situation that would warn you that you might get distressed?”

This question assesses the respondent's ability to identify any proximal antecedents in relation to the identified situation that might lead to a more distressing emotion. Proximal antecedents refer to antecedents that occur directly before the experienced emotion and may include thoughts, different or less intense emotions, bodily sensation, or behaviour (Kirk, 1989). As with the previous two questions, while the identification of possible proximal antecedents does not directly ask the respondent to identify or see connections between thoughts, emotions, and behaviour, it is included in the CB-PM because it is likely to elicit thoughts, emotions, or behaviours occurring directly before the experienced emotion that might make the situation seem more distressing.

The ability to identify how contextual and modulating variables might influence emotional response is important in cognitive-behaviour therapy. According to Kirk (1989), "the patient may not be aware of the contexts in which the problem occurs, nor of the modulating variables" (p. 27). Modulating variables that influence the frequency and/or intensity of the problem behaviour could be situational, behavioural, cognitive, affective, or physiological. An example of a situational modulating variable might be a panic disordered individual who starts to feel particularly anxious and panicky when in close proximity to men on a crowded bus, but not when near women or young people. By understanding how different modulating variables influence the occurrence of a problem behaviour or affective state, the client learns "to shift from a global, all-or-nothing view of the problem, to one in which the patient may begin to see it as predictable" (Kirk, 1989, p. 28).

Scoring

The scoring procedure for the identification of proximal antecedents is described in Figure 14.

<p><u>0 Points:</u></p> <p>No proximal antecedents</p> <p><u>1 Point:</u></p> <p>Proximal antecedent (either a thought, emotion, behaviour, or bodily sensation) is identified as occurring directly before the distressing emotion, but is described vaguely.</p> <p><u>2 Points:</u></p> <p>A well-defined and specific proximal antecedent (either a thought, emotion, behaviour, or bodily sensation) is identified as occurring directly before the distressing emotion.</p>

Figure 14. Scoring procedure for the identification of a proximal antecedent.

The allocation of points for the identification of a proximal antecedent is reflected in the respondent's ability to (a) describe a proximal antecedent (either a thought, emotion, behaviour, or bodily sensation) that occurs directly before the distressing emotion, and (b) to express the proximal antecedent in a well-defined and specific manner. An example of a response that is well-defined and specific might be 'just before I felt anxious, I noticed that I started fidgeting with my hands', because the proximal antecedent (a behaviour) is well-defined and occurs directly before the distressing emotion. An example of a vague response that would be awarded one point might be 'before I felt anxious, I had a bad feeling about all this', because the

proximal antecedent (feeling 'bad') was vague and not well-defined by the respondent.

3.3.13 Identification of mood

Item Question: "What mood might you be in as a consequence of this situation?"

This question assesses the respondent's ability to identify any change in mood that might occur as a result of the situation. While many researchers distinguish between emotion and mood, there is considerable disagreement in the literature as to the precise meaning of these two affective experiences. A common distinction often cited in the literature is made by Davidson et al. (1994), who suggest that emotion relates to situations where quick reaction is required, thus modulating or biasing *action*. Mood, on the other hand, functions in situations that necessitate more consideration, serving to modulate or bias *thought*. In the context of cognitive-behavioural intervention, Beedie, Terry, and Lane (2005) suggest that "emotion-regulation strategies might focus on changing behavioural responses to environmental stressors, such as withdrawing from stressful situations rather than dealing with them, while mood-regulation strategies might focus on cognitive processes, such as encouraging positive rather than negative self-talk" (p. 848). Hence, this distinction suggests that the identification of moods might be an important aspect of cognitive-behavioural intervention

Of particular relevance to the inclusion of this item in the CB-PM is the way that non-academics understand and distinguish between emotion and mood. Beedie et

al. (2005) asked 106 participants (who were mostly educated to a degree level) the question “*what do you believe is the difference between an emotion and a mood?*”. Among a variety of responses, participants typically described emotions as brief in duration, intense, physiologically arousing, and ‘related to the heart’. Mood, on the other hand, was described as longer in duration, of low intensity, less physiologically arousing, and ‘related to the mind’. Beedie, et al. concluded that these distinctions made by non-academics generally concur with academics conceptualisation of the two constructs.

In conclusion, the identification of mood fits into the broad category of identifying affective response, and so is an aspect of psychological mindedness as it is defined in the current work.

Scoring

The scoring procedure used for the identification of mood is detailed in Figure 15.

The scoring criteria for this item is similar to the identification of emotions item, and reflects the respondent being awarded points for the number of mood words used, up until describing two moods. The only exception to this rule is when the respondent provides an answer that contains excessive descriptions of how they thought and/or behaved during the situation to the point where the focus of the response is not on mood, but on thinking and/or behaviour. However, if the respondent provides two mood words but also mentions in passing a justification for

that mood (e.g., ‘I was depressed and frustrated because he was an hour late’), then they can still receive two points.

<p><u>0 Points:</u></p> <p>No Mood words.</p> <p><u>1 Point:</u></p> <p>One Mood word, <u>or</u> Two Mood words but with excessive reference to thinking or behaviour.</p> <p><u>2 Points:</u></p> <p>Two Mood words without excessive reference to thinking or behaviour.</p>
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Figure 15. Scoring procedure for identification of moods item.

3.4 History of the CB-PM

An early version of the CB-PM was originally designed by Dr. Brian Johnston, a clinical psychologist from Adelaide, South Australia, and was first described in an unpublished Master’s Thesis (Wigg, 2003). This early version of the CB-PM was based on Appelbaum’s (1973) definition of psychological mindedness as “a person’s ability to see relationships among thoughts, feelings, and actions, with the goal of learning the meanings and causes of his experiences and behavior” (p. 36). The measure was developed in the context of clients with schizophrenia detecting the early warning signs of psychotic relapse and responding to these signs in an adaptive and helpful way (Shepherd, Watt, Falloon, & Smeeton, 1989). It was suggested that

clients with schizophrenia who were psychologically minded would be better able to notice these early warning signs of psychotic relapse, than clients who were not psychologically minded (Wigg, 2003). The study conducted by Wigg measured psychological mindedness in clients with schizophrenia both before and after a short-term group grief therapy, and also in a wait-list control group. The grief therapy program was designed to improve participants' psychological mindedness, emotional awareness, and illness self-management. Wigg found the early CB-PM measure to evidence high internal reliability (Cronbach's alpha = .90) and inter-rater reliability ($r = .83$) with a PhD. level psychology student trained in the administration and scoring of the instrument. Test-retest reliability for the control group over a three month period was $r = .88$. However, the group therapy program did not improve participants' level of psychological mindedness, as measured by the early CB-PM.

The CB-PM used in the current work was adapted from this early version that was developed in the context of schizophrenia and the detection of early warning signs of relapse. The current CB-PM measure differs from the early one by rewording some items and including additional items to (a) reflect the definition of psychological mindedness used in the current study (i.e., the ability to identify one's thoughts, emotions, and behaviours, and see connections between them), and (b) to be more applicable to the processes of cognitive-behaviour therapy.

3.5 Summary of the development of the CB-PM

This chapter has described the development of the Cognitive-Behavioural Measure of Psychological Mindedness (CB-PM). The CB-PM was developed in the

style of a cognitive-behavioural assessment using the cognitive-behavioural model as a theoretical framework. Each item of the CB-PM has been discussed with reference to (a) a rationale of how the item measures psychological mindedness, (b) how each item is related to the techniques and processes of cognitive-behaviour therapy, and (c) the individual scoring of each item. The next chapter describes an empirical investigation establishing the psychometric properties, validity, and reliability of the CB-PM in a non-clinical, undergraduate student population.

CHAPTER FOUR

The psychometric properties of the CB-PM in a non-clinical sample

4.1 Introduction

This chapter describes an empirical investigation into the psychometric properties of the CB-PM in a non-clinical, undergraduate student population. The first section of this chapter describes how the CB-PM may be theoretically related to other well-established measures and the constructs they operationalise. The following sections include the method, results, and interpretation of the findings of this first investigation into the psychometric properties of the CB-PM.

4.1.1 The relationship between the CB-PM and other related measures

This section describes how the CB-PM may be expected to relate to the Toronto Alexithymia Scale-20, the Psychological Mindedness Scale, the Self-Reflection and Insight Scale, the NEO-Five Factor Inventory, the Wechsler Test of Adult Reading, and diary-keeping status.

4.1.1.1 Toronto Alexithymia Scale - 20

Alexithymia is conceptualised as a deficit in the cognitive processing of emotional experience whereby alexithymic individuals demonstrate a restricted ability to symbolize emotions and elaborate emotional experience (Taylor et al., 1997; Tull,

Medaglia, & Roemer, 2005). Hence, individuals with alexithymia often lack an awareness of their own emotional states and responses, and have difficulty in the regulation and communication of emotion. This characterisation is reflected in the Toronto Alexithymia Scale-20, which measures alexithymia as a multi-faceted construct, consisting of (1) difficulty identifying feelings, (2) difficulty describing feelings, and (3) an externally oriented thinking style (Bagby, Taylor, et al., 1994). The TAS-20 is now a widely used and well-validated self-report instrument measuring alexithymia (Taylor & Bagby, 2004).

A number of studies have found the Psychological Mindedness Scale (a self-report measure of psychological mindedness that is explicitly oriented towards engagement in psychodynamic therapy) to be inversely related to alexithymia (Bagby, Taylor, et al., 1994; Shill & Lumley, 2002). These findings should be interpreted in terms of both the factor structure of the PMS, as well as the psychodynamic background from which the measure arose. To explore the rationale of how the CB-PM might relate to the TAS-20, consideration should be given to how the CB-PM has been influenced by (a) the particular definition of psychological mindedness adopted, (b) the cognitive-behavioural framework upon which the measure was developed, and (c) the ability-based, rather than self-report mode of scoring and measurement used in the CB-PM.

As discussed earlier, the definition of psychological mindedness utilised for the current work is very similar to the cognitive-behavioural model of psychopathology, which emphasises the link between thoughts, emotions, and behaviours. As reflected in this definition, an aspect of psychological mindedness

includes the ability to identify emotion, which is an ability that the alexithymic individual lacks. Therefore, it is predicted that higher levels of psychological mindedness, as measured by the CB-PM, is related to lower levels of alexithymia.

A notable distinction between the CB-PM and the TAS-20 is the mode of measurement utilised. The CB-PM is an ability-based measure, whereas the TAS-20 relies on the self-report of alexithymic traits. The TAS-20 has been criticised by some because it asks respondents “who, by definition, have difficulty identifying and describing their emotions, to monitor and make judgments on their internal states and then to articulate their own deficits” (Tull et al., 2005, p. 78). Therefore, a potential strength of the CB-PM is that it is not the respondent but the interviewer, who scores responses according to pre-determined criteria, and therefore determines the respondent’s level of psychological mindedness. The TAS-20, on the other hand, requires the individual to articulate their own internal emotional states.

Despite the criticisms of the self-report nature of the TAS-20, there has been empirical data to support its validity according to external, ability-based measurement. Roedema and Simons (1999) identified 65 college undergraduate students as alexithymic or control, based on their scores on an earlier version of the TAS-20 (Taylor, Ryan, & Bagby, 1986). The students were presented with standardised emotion-eliciting colour slides (the International Affective Picture System; Lang, Ohman, & Vaitl, 1988) for six seconds while facial muscle, heart rate, and skin conductance activity was recorded. In addition to this physiological data, participants were asked to generate a list of words describing their emotional reaction to each slide. Consistent with the definition of alexithymia as a syndrome

characterized by a deficit in ability to identify and describe emotional response, alexithymic subjects supplied fewer emotion-related words than did controls to describe their emotional response to the slides. These data provide further support for the prediction that the CB-PM, which requires respondents to identify and describe emotion, will be inversely related to the TAS-20.

4.1.1.2 The Psychological Mindedness Scale

The PMS is a 45-item self-report measure of psychological mindedness. The measure defines psychological mindedness in terms of following factors: (1) Willingness to try to understand oneself and others, (2) Openness to new ideas and capacity to change, (3) Access to feelings, (4) Belief in the benefits of discussing one's problems, and (5) Interest in meaning and motivation of own and others behaviour. As described earlier, the PMS was developed from within a psychodynamic framework, and according to Grant (2001, p. 13), "is probably assessing an individual's preparedness or ability to engage in and benefit from psychoanalytic therapy".

Although the CB-PM was developed from within a cognitive-behavioural framework, there are reasons why comparing the measure with the PMS might provide support for the convergent validity of the CB-PM. In their discussion of the development of the PMS, Conte et al. (1990) characterise psychological mindedness as a multi-faceted construct, described by the authors as follows (p. 426):

it *psychological mindedness* [italics added] taps motivation and capacity to change, access to one's affects, interest in seeing relations between feelings and behavior, willingness to be open with others about one's problems, and interest in the meaning of one's own behavior and that of others

While this description clearly has many dimensions, a theme behind these different components is the focus on how the psychologically minded individual can identify that their internal experience (e.g., thoughts and feelings) is related to their behaviour and current difficulties. The relationship between thoughts, feelings, and behaviour is strongly emphasised in the definition used for the CB-PM. Hence, due to some similarity between the definitions of psychological mindedness upon which the measures were developed, it is predicted that there will be a positive relationship between the CB-PM and the PMS.

4.1.1.3 The Self-Reflection and Insight Scale

The Self-Reflection and Insight Scale (SRIS) approaches the measurement of psychological mindedness through a metacognitive perspective (Grant et al., 2002). According to Moses and Baird (1999), metacognition refers to any knowledge or cognitive process that refers to, monitors, or controls any aspect of cognition. Grant (2001) proposes that psychological mindedness is best conceptualised as a form of metacognition, and defines psychological mindedness as “a predisposition to engage in acts of affective and intellectual inquiry into how and why oneself and/or others behave, think, and feel in the way that they do” (p. 12).

In this way, Grant (2001) assesses psychological mindedness by measuring individuals' metacognitive processes of self-reflection and insight. That is, the SRIS measures the extent to which an individual engages in reflective acts of psychological inquiry, and their level of insight.

According to Grant (2001), reflective acts of psychological inquiry refers to the self-monitoring and self-evaluation of one's cognitions, emotions, and behaviours. This psychological inquiry clearly relates closely to the definition of psychological mindedness used in the current work (the ability to identify one's thoughts, emotions, and behaviours, and see connections between them) in that *self-monitoring* is conceptually similar to the ability to identify thoughts, emotions, and behaviours, while *self-evaluation* can be interpreted as being related to the ability to see connections between thoughts, emotions, and behaviours.

Consistent with this, Grant (2001) suggests that his "proposed model of psychological mindedness is of relevance to clinical practice because the self-monitoring and self-evaluation of one's cognitions, emotions, and behaviours is central to the successful practice of CBT" (p. 14). Although Grant describes the SRIS as being atheoretical, the measure does focus upon an individual's ability to self-monitor thoughts, emotions, and behaviours, which is a key component of cognitive-behaviour therapy. Given the cognitive-behavioural framework that guided the development of the CB-PM, the SRIS may be a good *self-report* measure against which to evaluate the convergent validity of the *ability-based* CB-PM.

4.1.1.4 NEO-Five Factor Inventory

The NEO-Five Factor Inventory (NEO-FFI; McCrae & Costa, 1999) is a 60 item self-report measure of five basic dimensions of personality – neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. The NEO-FFI is a widely used and well-validated measure of personality. As such, it is a good benchmark against which to evaluate the convergent and divergent validity of a new scale (Beitel & Cecero, 2003). In terms of convergent validity, it is expected that the CB-PM will negatively correlate with the neuroticism dimension. One reason for this prediction is that individuals who cannot identify how they feel and think are likely to have difficulty regulating problematic emotions. In support of this, Bagby, Taylor, et al. (1994) found the TAS-20 to correlate positively with neuroticism and dysphoria. In terms of divergent validity, it is predicted that the CB-PM will *not* correlate with the agreeableness or conscientiousness dimensions. In support of this divergent validity prediction, Bagby, Taylor, et al. (1994) found that the TAS-20 did not correlate with either personality dimension.

4.1.1.5 Wechsler Test of Adult Reading

The Wechsler Test of Adult Reading (WTAR; Wechsler, 2001) gains a quick and easy estimate of verbal intelligence (Verbal IQ). Verbal IQ reflects individuals' verbal abilities such as verbal comprehension and expressive language skills. Research has demonstrated that Verbal IQ is positively related to the emotional intelligence construct (Mayer, Caruso, & Salovey, 2000), and negatively related to alexithymia (Valdes, Ojuel, & Sureda, 2001), which suggests that people who have

poor expressive language skills also have difficulty identifying and describing their emotions.

From the above research, it might be expected that the CB-PM will be positively associated with Verbal IQ. This may particularly be the case because the CB-PM is a structured interview that asks respondents to verbally describe their thoughts, emotions, and behaviours. Therefore, one concern in the cognitive-behavioural measurement of psychological mindedness is that the CB-PM may simply be measuring respondents' expressive verbal abilities. Hence, the WTAR was used as a test of the divergent validity of the CB-PM. It is predicted that the Verbal IQ will not demonstrate any more than a *low* positive correlation with the CB-PM. A *moderate* or *high* correlation would bring the divergent validity of the CB-PM into question, and may reflect respondents' verbal abilities, rather than their psychological mindedness. Therefore, the WTAR was used in the current study to check that the scoring criteria of the CB-PM were not classifying respondents as psychologically minded simply because they have high verbal skills.

4.1.1.6 Diary keeping

Journals and diaries are often kept as a means of deepening one's understanding of oneself (Accardo, Aboyou, Alford, & Cannon, 1996) and involve the self-monitoring of one's own thoughts and emotions. Grant et al. (2002) found that individuals who keep a diary in which they write about their thoughts and feelings scored higher on the Self-Reflection scale of the SRIS. It is suggested that (a) writing thoughts and feelings in a diary would be expected to improve one's

ability to identify and relate thoughts, feelings, and behaviours together, and (b) diary keeping reflects an individual's propensity towards self-reflection, which many authors assert is positively related to psychological mindedness (Fenigstein, 1997). Therefore, it is predicted that individuals who keep a diary will be more psychologically minded, as measured by the CB-PM, than those who do not.

4.1.2 Aim of the first study

The aim of this first empirical investigation was to determine the psychometric properties of the CB-PM in a non-clinical, undergraduate student population. The CB-PM was administered along with the Psychological Mindedness Scale (Conte et al., 1996), the Toronto Alexithymia Scale-20 (Bagby, Parker, et al., 1994), The Self-Reflection and Insight Scale (Grant et al., 2002), the NEO-Five Factor Inventory (McCrae & Costa, 1999), and the Wechsler Test of Adult Reading (Wechsler, 2001).

4.1.3 Hypotheses of the first study

The hypotheses tested in the first study were as follows:

- 1. The CB-PM will demonstrate high internal, inter-rater, and test-retest reliability.*
- 2. The CB-PM will demonstrate convergent validity with established measures theoretically predicted to be associated with psychological mindedness.*

2.1 There will be a negative correlation between the CB-PM and the TAS-20.

2.2 There will be a positive correlation between the CB-PM and the PMS.

2.3 There will be a positive correlation between the CB-PM and the SRIS Self-Reflection and Insight subscale scores.

2.4 There will be a negative correlation between the CB-PM and the neuroticism subscale of the NEO-FFI.

3. *The CB-PM will demonstrate divergent validity with established measures theoretically predicted not to be associated with psychological mindedness.*

3.1 There will be no correlation between the CB-PM and the agreeableness and conscientiousness subscales of the NEO-FFI.

3.2 There will not be a *moderate* or *large* correlation ($r > .40$) between the CB-PM and WTAR Verbal IQ Subscale.

4. *Participants who keep a diary about their thoughts and feelings will have higher mean CB-PM scores than those who do not keep a diary.*

4.2 METHOD

4.2.1 Participants

Participants were 208 undergraduate psychology students in their first year of study. Participants' age ranged from 17 to 50 ($M = 20.79$, $SD = 5.78$). There were 67 males and 141 females. All 208 participants were utilised for the CB-PM factor analysis in this study, whilst a subset of these participants ($n = 100$) completed *all* of the measures required for the current study (i.e., convergent validity measures). Mean age of this subset of 100 participants ranged from 17 to 50 ($M = 20.56$, $SD = 6.34$), with 27 males and 73 females. The remaining 108 participants completed measures pertaining to the second study. Students participated in the study to receive partial credit for a first year psychology topic they were undertaking. The study was approved by the Human Ethics Subcommittee, Psychology Department, Adelaide University.

4.2.2 Measures

Cognitive-Behavioural Measure of Psychological Mindedness (CB-PM; see Appendix A). This structured interview was designed as an ability-based cognitive-behavioural measure of psychological mindedness, utilising a new definition of the construct as *the ability to identify one's thoughts, emotions, and behaviours, and see connections between them*. The CB-PM has been discussed in detail in Chapter 3.

Psychological Mindedness Scale. This 45-item self-report measure of psychological mindedness was originally created to assess patient suitability for psychodynamic therapy (Conte et al., 1996). Items were rated on a 4-point scale ('strongly agree' to 'strongly disagree'); 20 items were reverse-scored with final scores being the sum of all item responses. Higher scores indicate greater psychological mindedness. The internal consistency of the PMS has been established, with a coefficient alpha value of .80 in a non-clinical undergraduate student sample (Shill & Lumley, 2002) and .87 for a mixed diagnostic psychiatric outpatient population (Conte et al., 1996). Test-retest reliability for a subset of this psychiatric population over a two-week period was .92.

According to Conte et al. (1996), content validity of the PMS was determined by five experienced clinicians who judged whether the items adequately represented the psychological mindedness construct, "as they understood it clinically and as it is described in the literature" (p. 252). The PMS has been found to be inversely related to the alexithymia construct in two different studies using undergraduate student populations, with correlation coefficients of $r = -.68$ (Bagby, Taylor, et al., 1994) and $r = -.31$ (Shill & Lumley, 2002).

Toronto Alexithymia Scale-20 (TAS-20; Bagby, Parker, et al., 1994). This 20 item self-report questionnaire is a widely used measure of alexithymia, which in addition to an overall alexithymia score, includes the following three subscales: (a) Difficulty identifying feelings, (b) Difficulty describing feelings, and (c) Externally oriented thinking. Subjects respond on a 5-point scale, ranging from 'strongly agree' to 'strongly disagree'. Higher scores indicate greater levels of alexithymia for both the

total and subscale scores. The TAS-20 has demonstrated acceptable internal consistency (Cronbach's alpha = .81; Bagby, Parker, et al., 1994).

As described earlier, the TAS-20 has correlated negatively with the PMS in two undergraduate student populations (Bagby, Taylor, et al., 1994; Shill & Lumley, 2002). In further support of its convergent validity, Bagby, Taylor, et al. (1994) reported that scores on the TAS-20 show high agreement with observer ratings of alexithymia, as measured by an amended version of the Beth Israel Hospital Psychosomatic Questionnaire (BIQ; Sriram, Pratap, & Shanmugham, 1988). The TAS-20 has also undergone convergent, discriminant, and concurrent validity tests with favourable results (Bagby, Parker, et al., 1994; Bagby, Taylor, et al., 1994).

The Self-Reflection and Insight Scale (SRIS). The SRIS is a relatively new measure assessing the metacognitive processes of self-reflection and insight. Self-reflection is defined by Grant et al. (2002) as “the inspection and evaluation of one’s thoughts, feelings and behaviour” and insight as “the clarity of understanding of one’s thoughts, feelings, and behaviour” (p. 821). As a test of convergent validity, the Insight subscale negatively correlated with depression, anxiety, stress and alexithymia, and positively correlated with cognitive flexibility and self-regulation (Grant et al., 2002). The Self-Reflection subscale demonstrated less promising results, with no correlations found with either depression or alexithymia. However, individuals who kept a diary in which they wrote about their thoughts and emotions demonstrated significantly higher Self-Reflection subscale scores than those who did not. The SRIS showed high internal reliability with Grant reporting a coefficient alpha coefficient of .91 for the Self-Reflection subscale and .87 for the Insight subscale. Test-retest reliability

over a 7-week period was .77 for the Self-Reflection subscale and .78 for the Insight subscale.

NEO-Five Factor Inventory (NEO-FFI Form S; Costa & McCrae, 1992). The NEO-FFI is a shortened version of the Neo Personality Inventory (NEOPI-R). The NEO-FFI is a 60-item self-report measure of five basic dimensions of personality – neuroticism (N), extraversion (E), openness to experience (O), agreeableness (A), and conscientiousness (C). Each question utilises a five-point Likert scale. Strong evidence for the construct, convergent, and divergent validity of the Neo Personality Inventory has been provided by Costa and McCrae (1992). In the standardisation sample, the NEO-FFI demonstrated correlations with the full version NEOPI-R of .92, .90, .91, .77, and .87 for N, E, O, A, and C domains, respectively.

Wechsler Test of Adult Reading (WTAR; Wechsler, 2001). The WTAR is a one-minute word pronunciation task measuring verbal ability. The WTAR correlates highly and positively with the WAIS-III Verbal IQ in both a US ($r = .75$) and UK ($r = .70$) standardisation sample (Wechsler, 2001).

Demographic Items. The demographic items of age, gender, and diary-keeping status were recorded for all participants. Diary-keeping status was measured by the following question: “Do you currently keep a journal or diary on a regular basis in which you write about your thoughts and feelings? YES / NO”.

4.2.3 Procedure

The various measures were administered in a private room with only the participant and researcher present. Before commencing, each participant was provided with an information sheet detailing the study (see Appendix B) and a consent form (see Appendix C), which they were requested to read and sign. After providing written, informed consent, participants completed the demographics form, PMS, TAS-20, SRIS, NEO-Five Factor Inventory, WTAR, and CB-PM in randomised order between participants. The entire testing procedure took approximately an hour. A subset of the participants selected at random ($n = 25$) returned in 3 months time to be re-tested on the CB-PM. An additional subset of participants were selected at random ($n = 27$) to have the CB-PM structured interview tape recorded for inter-rater reliability purposes. The first rater was the current author, while the second rater was a Master's level psychologist with two years clinical experience.

4.3 RESULTS

4.3.1 Statistical procedure

All data were analysed using the Statistical Package for the Social Sciences software – Version 12. Various tests and searches were made to check for data entry errors. Because of the assumption of normality for many inferential statistical techniques, checks were made on all variables to assess for skewness and kurtosis.

These checks included histogram inspection, normal probability plots, skewness and kurtosis statistics, and the Kolmogorov-Smirnov statistic. While some variables deviated slightly from a normal distribution, these were judged not to be adequate to necessitate the transformation of variables. Further testing confirmed there were minimal outliers contained in the data.

4.3.2 Factor analysis

As described in Chapter 3, there are 12 unique questions in the CB-PM that are asked in relation to 3 different situations, yielding a total of 36 items. Before being entered into the factor analysis, item scores were calculated as the sum of the item over the three different situations. For example, the 'identification of emotions' item was summed over the three situations. To provide some justification for this summing over the three situations as part of the factor analysis, Table 2 presents the Cronbach's alpha coefficients of each of the 12 items. Each Cronbach's alpha coefficient was calculated over the three situations. All coefficients were in the mild to moderate range, with 8 of the 12 items in the moderate range. Given that the Cronbach's alpha coefficients were calculated over just 3 situations for each item, these data justify the summing of the three situations across the twelve items.

Table 2

Cronbach's Alpha Coefficients over the Three Situations for each of the Twelve Items of the CB-PM

Item	Cronbach's alpha over 3 situations
1. Emotion	.51
2. Bodily Sensations	.61
3. Behaviour	.28
4. Thoughts	.59
5. More distressed thought	.50
6. More distressed thought/behaviour	.43
7. Less distressed thought	.53
8. Less distressed thought/behaviour	.44
9. More distressed distal antecedent	.54
10. Less distressed distal antecedent	.64
11. Proximal antecedents	.52
12. Mood	.37

As displayed in Table 3, a principal component analysis of the CB-PM extracted three factors with Eigenvalues of 1 or greater.

Table 3

Principal Component Extraction of the CB-PM

Component	Eigenvalue	Percentage of Variance	Cumulative percentage
1.	4.586	38.214	38.214
2.	1.350	11.253	49.467
3.	1.092	9.096	58.564
4.	.972	8.097	66.660
5.	.821	6.843	73.503
6.	.662	5.521	79.024
7.	.540	4.498	83.522
8.	.510	4.247	87.769
9.	.477	3.975	91.744
10.	.418	3.486	95.230
11.	.313	2.610	97.840
12.	.259	2.160	100.000

As can be seen from Table 3, the first two factors account for 49.5% of the total variance. The following three factors accounted for an additional 24% of the total variance. While the principal component analysis extracted three factors with eigenvalues of 1 or greater, the scree plot suggests a two factor solution, as the slope of the line flattens out after the third factor (see Figure 16). Two factors were extracted with an oblique rotation (see Table 4).

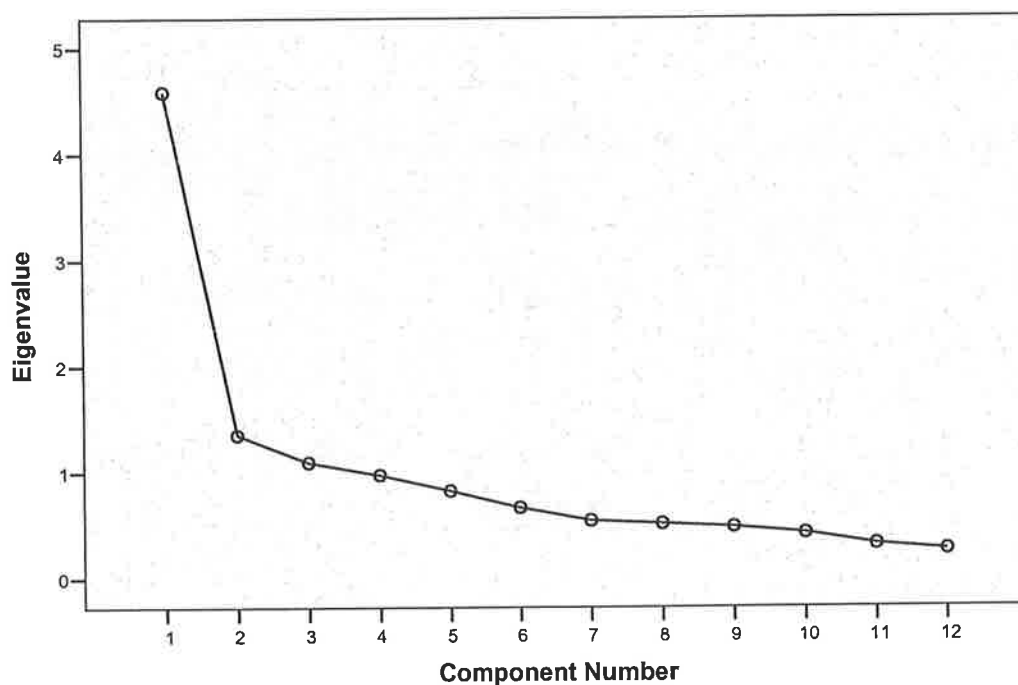


Figure 16. Scree plot of the CB-PM principal components analysis.

Table 4

Principal Components Analysis Matrix with Oblique Rotation

Factor/Items	Factor Loadings	
	1	2
Factor 1		
<i>Ability to see connections between thoughts, emotions, and behaviours</i>		
5. Can you give me an example of a thought you could have about this situation that might make you feel more distressed?	.52	.26
6. How might this thought influence your behaviour?	.64	.20
7. Can you give me an example of a thought you could have about this situation that might make you feel less distressed?	.70	-.02
8. How might this thought influence your behaviour?	.83	-.11
9. Can you think of anything about your experiences in life that might lead you to be particularly distressed by this type of situation?	.79	-.12
10. Can you think of anything about your experiences in life that might lead you to be less distressed by this type of situation?	.69	.03
11. What might you notice immediately before becoming distressed about the situation that would warn you that you might get distressed?	.34	.29
Factor 2		
<i>Ability to identify thoughts, emotions, and behaviours</i>		
1. What emotions are you likely to feel when you are in this situation?	-.01	.83
2. Where in your body would you be aware of this emotion?	-.21	.80
3. How are you likely to behave in response to this situation?	.19	.54
4. What thoughts are likely to go through your mind while in this situation?	.31	.40
12. What mood might you be in as a consequence of this situation?	.26	.55

Inspection of Table 4 shows that factor 1 has moderate to high loadings (> .5) on items 5-10, and a low loading (.34) on item 11. Although item 11 loaded on both factors, it loaded slightly higher on Factor 1 and the content of the item was more theoretically consistent with that factor. That is, the identification of proximal antecedents *connects* proximal thoughts, emotions, behaviour, or bodily sensations

with the distressing emotion, suggesting that the item loads more meaningfully on the first factor ('Ability to see *connections* between thoughts, emotions, and behaviours'). Factor 2 had moderate to high loadings on items 1-4 and item 12. Overall, the scale items functioned reasonably well in the two factor structure of the CB-PM.

Interpretation of the Two Factor Structure

The items in factor 1 tended to revolve around the respondent being able to see connections between thoughts, emotions, and behaviours. Therefore, this first factor was labelled 'Ability to see connections between thoughts, emotions, and behaviours'. The items in factor 2 tended to revolve around the respondent being able to identify their thoughts, emotions, and behaviours. Hence, the second factor was labelled 'Ability to identify thoughts, emotions, and behaviours'. This interpretation of the factor analysis data provides support for the convergent validity of the CB-PM as a measure of psychological mindedness as it is defined in the current work.

4.3.3 Test of hypotheses

Hypothesis One: The CB-PM will demonstrate high internal, inter-rater, and test-retest reliability

To determine the internal reliability of this proposed factor structure, a reliability analysis was conducted including scale alpha item-total statistics (see Table 5). Inspection of the table reveals that the Cronbach's alpha coefficients for factors 1 and 2, and the total score, were moderate to high (.814, .723, and .846, respectively),

suggesting good internal consistency of the 2 factors and the total score. With the exception of item 2, the deletion of any of the scale items would lower the internal consistency of the factor. Because the removal of item 2 would improve the Cronbach's alpha coefficient by only .002 (for the total score) and .004 (for factor 2), the item was retained.

In summary, the hypothesis that the CB-PM will demonstrate high internal reliability was supported in the case of the CB-PM Total and Connections Subscale, while the CB-PM Identify Subscale demonstrated moderate internal reliability.

The factor scores that are used in the remainder of this chapter have been calculated as the sum of the factor's items (Tabachnick & Fidell, 2001). To justify this method of factor score calculation, alternative factor scores were calculated using the regression method for factor score calculation in the Statistical Package for the Social Sciences software. There was a positive, high correlation between the sum and regression factor 1 scores ($r = .98, p < .01$), as well as a high correlation between the sum and regression factor 2 scores ($r = .97, p < .01$), justifying the use of factor sum scores.

Table 5

Reliability Analysis of the CB-PM – Scale Alpha Statistics

Item	Scale Mean if item deleted	Scale Variance if item deleted	Corrected item total correlation	Alpha if item deleted
<u>Overall</u>				
1	41.25	85.307	.525	.834
2	41.80	86.913	.330	.848
3	41.16	86.585	.475	.837
4	41.68	85.017	.487	.836
5	41.99	82.847	.557	.831
6	42.61	79.855	.643	.825
7	41.82	83.616	.514	.834
8	42.59	81.095	.583	.829
9	42.33	78.928	.546	.832
10	42.24	77.988	.563	.831
11	42.89	81.550	.454	.840
12	41.58	83.364	.539	.833
Alpha = .846				
<u>Factor 1</u>				
'Connections'				
5	20.39	38.672	.527	.794
6	21.01	36.175	.647	.774
7	20.22	39.035	.495	.799
8	20.99	36.241	.638	.775
9	20.73	34.362	.611	.778
10	20.64	34.872	.558	.789
11	21.29	37.636	.425	.813
Alpha = .814				
<u>Factor 2</u>				
'Identify'				
1	17.03	11.115	.632	.620
2	17.58	11.641	.370	.727
3	16.94	12.393	.455	.687
4	17.47	11.870	.444	.690
12	17.37	10.909	.545	.649
Alpha = .723				

Inter-rater reliability for twenty-seven participants was .83 ($p < .001$) for the CB-PM Total, .80 ($p < .001$) for the CB-PM Connection Subscale, and .84 ($p < .001$) for the CB-PM Identify Subscale. Therefore, the hypothesis that the CB-PM will demonstrate high inter-rater reliability was supported.

The test-retest correlation for twenty-five participants over the 3 month period was .85 ($p < .001$) for the CB-PM Total, .76 ($p < .001$) for the CB-PM Connections Subscale, and .73 ($p < .001$) for the CB-PM Identify Subscale. Therefore the hypothesis that the CB-PM will demonstrate high test-retest reliability was supported for the CB-PM Total, while the test-retest reliability of the two subscales was moderate to high.

CB-PM Total and Subscale Analysis

The means, standard deviations, range, and intercorrelations of the subscales and total score of the CB-PM are presented in Table 6. Inspection of the table reveals high positive correlations between the two subscales and the total score. Also, there was a moderate and positive correlation between the two subscales.

An exploratory analysis revealed age and gender were not significantly associated with subscale or total scores on the CB-PM.

Table 6

Means, Standard Deviations, Range, and Intercorrelations of the Subscales and Total Score of the CB-PM (n = 208)

	CB-PM		
	Total	Connections	Identify
Mean	45.81	24.21	21.60
SD	9.86	7.0	4.11
Min	22	10	10
Max	66	38	30
<i>Intercorrelations</i>			
Total Score	1.00		
Connections (Factor 1)	.94*	1.00	
Identify (Factor 2)	.81*	.56*	1.00

Note: * $p < .01$ (2-tailed)

Hypothesis Two: The CB-PM will demonstrate convergent validity with established measures theoretically predicted to be associated with psychological mindedness.

The Toronto Alexithymia Scale

The means and standard deviations of the TAS-20 subscale and total scores, along with their correlations with the CB-PM total and subscale scores, are presented in Table 7. As can be seen from the table, the mean TAS-20 score was 45.38 ($SD = 11.02$), which is comparable to one non-clinical population study, where participants scored a mean of 45.57 (Parker, Taylor, & Bagby, 2003).

Inspection of Table 7 indicates low to moderate negative correlations between TAS-20 total and subscale scores, and the CB-PM. All correlations of the TAS-20 with the CB-PM total and subscale scores were statistically significant. Therefore, the

hypothesis that there will be a negative correlation between the CB-PM and the TAS-20 was supported.

Table 7

Means and Standard Deviations of the TAS-20 Total and Subscale Scores, and their Correlations with the CB-PM Total and Subscale Scores

TAS-20 Scores	Mean	SD	<i>r</i> (with CB-PM scores)		
			Total	Connections	Identify
Total Score	45.38	11.02	-.42**	-.38**	-.36**
Subscales					
Difficulty Identifying Feelings	15.31	5.30	-.19**	-.18*	-.15*
Difficulty Describing Feelings	12.73	4.32	-.41**	-.39**	-.32**
Externally-Oriented Thinking	17.35	4.51	-.41**	-.34**	-.40**

Notes: * $p < .05$ ** $p < .01$ (2-tailed).

The Psychological Mindedness Scale

The means and standard deviations of the PMS subscale and total scores, along with their correlations with the CB-PM total and subscale scores, are displayed in Table 8. The Table shows that the mean total score of the PMS was 137.82 ($SD = 10.99$), which was slightly higher than a psychiatric population study, where participants scored a mean of 130.91 (Conte et al., 1996).

As can be seen from Table 8, there was a significant, low positive correlation between the CB-PM total scale and both the PMS total scale ($r = .23, p = .025$) and the 'Interest in Meaning and Motivation of Own and Others' Behaviour' PMS subscale ($r = .24, p = .020$). The Identify subscale of the CB-PM also correlated positively and significantly with both the PMS total scale ($r = .25, p = .016$), and

'Interest in Meaning and Motivation of Own and Others Behaviour' subscale of the PMS ($r = .23$, $p = .028$). Therefore, the hypothesis that there will be a positive correlation between the CB-PM and the PMS was supported.

Table 8

Means and Standard Deviations of the PMS Total and Subscale Scores, and their Correlations with the CB-PM Total and Subscale Scores

PMS Scores	Mean	SD	<i>r</i> (with CB-PM Scores)		
			Total	Connections	Identify
Total Score	137.82	10.99	.23*	.16	.25*
Subscales					
Belief in the Benefit of Discussing One's Problems	23.84	2.75	-.02	-.07	.06
Access to Feelings	11.88	1.77	.09	.09	.06
Willingness to Discuss Problems with Others	8.52	1.92	-.01	-.05	.06
Interest in Meaning and Motivation of Own and Others' Behaviour	10.52	1.42	.24*	.19	.23*
Openness to Change	12.12	1.62	.16	.12	.17

Note: * $p < .05$ (2-tailed).

The Self-Reflection and Insight Scale

The means and standard deviations of the SRIS Self-Reflection and Insight subscales, and their correlations with the CB-PM are presented in Table 9. As can be seen from the table, the means for the Self-Reflection and Insight subscales were 55.59 and 31.89, respectively. These means were slightly higher than found in a recent validation study of the SRIS using an undergraduate population, where participants scored a mean of 49.00 for the Self-Reflection subscale, and 25.57 for the Insight Subscale (Grant, et al., 2002).

As shown in Table 9, there were no significant correlations between the SRIS Self-Reflection or Insight subscales and any of the CB-PM total or subscales ($p > .05$). Therefore, the hypothesis that there will be a positive correlation between the CB-PM and the SRIS Self-Reflection and Insight Subscales was not supported.

Table 9

Means and Standard Deviations of the SRIS Self-Reflection and Insight Subscales, and their Correlations with the CB-PM Total and Subscale Scores

	Mean	SD	<i>r</i> (with CB-PM)		
			Total	Connections	Identify
SRIS-Self Reflection	55.59	9.35	.20	.16	.17
SRIS-Insight	31.89	5.49	.03	.01	.06

The NEO Five Factor Inventory

Correlations between the NEO Five-Factor Inventory and the CB-PM, TAS-20, PMS, SRIS-SR, and the SRIS-IN, are presented in Table 10. As can be seen from Table 10, the hypothesis that there will be a significant negative correlation between the CB-PM and the neuroticism subscale of the NEO-FFI, was not supported. Additional divergent validity results relating to the NEO-FFI are discussed in the following section.

Table 10

Correlations between the NEO Five-Factor Inventory and the CB-PM, TAS-20, PMS, SRIS-SR, and the SRIS-IN

	CB-PM			TAS-20	PMS	SRIS-SR	SRIS-IN
	Total	Connections	Identify				
Neuroticism	.03	.04	.00	.35**	-.31**	-.01	-.43**
Extraversion	.10	.10	.06	-.17	.26*	-.12	.01
Openness to Exp	.27**	.22*	.24*	-.30**	.39**	.53**	.11
Agreeableness	-.08	-.15	.08	-.04	.11	-.13	.06
Conscientiousness	-.17	-.11	-.21*	-.33**	.19	-.05	.34**

Notes: * $p < .05$ ** $p < .01$ (2-tailed)

Hypothesis Three: The CB-PM will demonstrate divergent validity with established measures theoretically predicted not to be associated with psychological mindedness.

The NEO Five Factor Inventory

As can be seen from Table 10, the personality factor 'openness to experience' correlated significantly with both the CB-PM total scale ($r = .27, p = .009$) and the CB-PM Connections ($r = .22, p = .032$) and CB-PM Identify subscales ($r = .24, p = .021$). There was also a significant negative correlation between the 'conscientiousness' personality factor and the CB-PM Identify subscale ($r = -.21, p = .042$). As can be seen from Table 10, the hypothesis that there will be no correlation between CB-PM and the agreeableness and conscientiousness subscales of the NEO-FFI, was supported.

There were also a number of significant correlations between the NEO Five-Factor Personality Inventory and the TAS-20, PMS, SRIS-SR, and SRIS-IN, as detailed in Table 10.

Wechsler Test of Adult Reading

The means and standard deviations of the WTAR-predicted verbal, performance, and full-scale IQ scores, along with their correlations with the CB-PM are presented in Table 11. As can be seen from the table, there were significant but low positive correlations (ranging from .15 to .18) between the CB-PM Total and Connections subscale, and the three WTAR-predicted IQ scores. There were no significant correlations between the CB-PM Identify subscale and any of the WTAR-predicted IQ scores. The hypothesis that there will not be a moderate or large correlation ($r > .40$) between the CB-PM and WTAR Verbal IQ Subscale, was supported.

Table 11

Means and Standard Deviations of WTAR-predicted Verbal, Performance, and Full Scale IQs, and their Correlations with the CB-PM Total and Subscale Scores

	Mean	SD	<i>r</i> (with CB-PM)		
			Total	Connections	Identify
Verbal IQ	108.69	5.86	.16*	.18*	.08
Performance IQ	106.45	4.66	.15*	.17*	.08
Full Scale IQ	108.55	5.77	.15*	.17*	.07

Note: * $p < .05$ level (2-tailed).

Diary Keeping

The means and standard deviations of the CB-PM, TAS-20, PMS, and SRIS for those who did and did not keep a diary, are displayed in Table 12. As can be seen from the table, individuals who kept a diary scored significantly higher on the CB-PM total scale ($M = 48.73$, $SD = 10.06$) than those who did not keep a diary ($M = 45.03$, $SD = 9.68$), $t(98) = 2.23$, $p = .027$. The Table also shows that journal keepers scored significantly higher on the CB-PM Connections subscale ($M = 26.11$, $SD = 7.31$), than those who did not keep a diary ($M = 23.70$, $SD = 6.80$), $t(98) = 2.05$, $p < .05$. Therefore, the hypothesis that participants who keep a diary will have higher mean CB-PM scores than those who do not keep a diary, was supported.

As can be seen from Table 12, those who kept a diary also scored significantly lower on the TAS-20 total, 'difficulty describing feelings' and 'externally-oriented thinking' TAS-20 subscales, than those who did not keep a diary. Diary keepers also scored significantly higher on the 'Willingness to Discuss Problems with Others' and 'Interest in Meaning and Motivation of Own and Others' Behaviour' subscales of the PMS, than those who did not keep a diary.

Table 12

Means and Standard Deviations of the CB-PM, TAS-20, PMS, and SRIS for those who Did and Did Not Keep a Diary

	Did Not Keep Diary (n = 80)		Kept Diary (n = 20)		Statistical sig. of difference score	
	Mean	SD	Mean	SD	t	p
CB-PM Total	45.03	9.68	48.73	10.06	2.23	.03*
CB-PM Subscales						
Connections	23.70	6.80	26.11	7.31	2.05	.04*
Identify	21.33	4.08	22.61	4.13	1.85	.07
TAS-20 Total	46.26	10.77	42.05	11.42	-2.23	.03*
TAS-20 Subscales						
Diff. Id. Feelings	15.41	5.27	14.93	5.44	-0.52	.60
Diff. Desc. Feelings	13.08	4.20	11.38	4.56	-2.29	.02*
Ext. Orient. Thinking	17.77	4.61	15.74	3.70	-3.00	.00**
PMS Total	136.75	10.71	141.85	11.39	1.87	.07
PMS Subscales						
Benefit	23.69	2.84	24.40	2.37	1.02	.31
Feelings	11.89	1.63	11.85	2.28	-0.10	.92
Discuss	8.26	1.95	9.50	1.47	2.64	.01**
Meaning	10.36	1.46	11.10	1.12	2.11	.04*
Openness	12.00	1.67	12.55	1.40	1.35	.18
SRIS-SR	55.08	9.38	58.79	9.80	1.53	.13
SRIS-IN	32.14	5.27	30.84	6.36	-0.92	.36

Notes: * $p < .05$ ** $p < .01$ (2-tailed).

4.4 DISCUSSION

4.4.1 Psychometric properties of the CB-PM

The purpose of this first empirical investigation was to explore the psychometric properties and validate the CB-PM in a non-clinical sample. Results from the exploratory factor analysis found the CB-PM to demonstrate a two-factor solution, accounting for 49.5% of the total variance. The first factor accounted for 38.2% of the total variance, while the second accounted for 11.25% of the total

variance. This two-factor solution demonstrated high internal reliability for the CB-PM Total and Connections Subscale (Cronbach's alpha of .846 and .814, respectively) and moderate internal consistency for the CB-PM Identify Subscale (Cronbach's alpha of .723).

As discussed in Chapter Two, the current work has defined psychological mindedness as *the ability to identify one's thoughts, emotions, and behaviours, and see connections between them*. This definition seemed to fit the two extracted factors very well, as the first factor was labelled 'Connections' and all items related in some way to the ability to see connections between thoughts, emotions, and behaviours. In addition, the second factor was labelled 'Identify' and these items all related to the ability to identify thoughts, emotions, behaviours, and bodily sensations. Because the two factors extracted relate closely to the cognitive-behavioural definition of psychological mindedness adopted, the current investigation has provided some initial support for the construct validity of the CB-PM.

In terms of internal reliability, the Cronbach's alpha coefficients for the CB-PM Total, Connections, and Identify Subscales were .846, .814, and .723, respectively representing moderate to high internal consistency. The lower reliability coefficient of the Identify factor may reflect, in part, the lower number of questions specifically addressing the respondent's ability to identify thoughts, emotions, and behaviours in isolation. The CB-PM Identify Subscale question "Where in your body would you be aware of this emotion?" was the only item that, if deleted would increase the internal reliability of the CB-PM, although only very marginally (an improvement of .002 for the Total score and .004 for the Identify Subscale). The decision to retain

this question was made on the following theoretical grounds: (1) emotional responding in humans involves neurophysiological processes that are experienced as particular bodily sensations (Taylor et al., 1997), (2) perceived bodily reactions have been found to be important in defining the perceived quality of particular emotions (Davitz, 1969), (3) Linehan (1993) indicates that in the context of psychotherapy, an important factor that aids learning to identify an emotional response is being able to observe and describe “the phenomenological experience, including physical sensation, of the emotion” (p. 149), and finally (4) the identification of bodily sensations can be important in the conceptualisation of anxiety disorders, most notably Clark’s (1986) conceptualisation of panic disorder, and how misinterpreting panic attacks symptoms can lead to the exacerbation of such symptoms. In addition, the identification of bodily sensations as part of emotional experience is also theoretically consistent with the definition of psychological mindedness. In summary, the item measuring one’s ability to identify bodily sensations was retained because (a) it is an important aspect of the cognitive-behavioural measurement of psychological mindedness, (b) the identification of bodily sensations has been identified as an important process in cognitive-behaviour therapy, and (c) the deletion of the item would result in a negligible improvement to the internal consistency of the CB-PM.

As a test of convergent validity, the CB-PM significantly and negatively correlated with the TAS-20 and its three subscales, difficulty identifying feelings, difficulty describing feelings and externally-oriented thinking. The negative correlations were predicted as less psychological mindedness is expected to be associated with higher levels of alexithymia, which is characterised by a deficit in identifying and describing emotion, and an externally-oriented thinking style. The

finding that the CB-PM correlates significantly and negatively with the TAS-20 and its' subscales was particularly important because, in contrast to psychological mindedness, the alexithymia construct and the TAS-20 have been (a) well-defined and are conceptually clear, and (b) subject to considerable empirical research evaluating the validity of both the construct and its measurement. In addition, the negative correlation between the two measures establishes psychological mindedness, as measured by the CB-PM, as a factor related to psychopathology and disordered affect regulation.

There are two major points worth discussing when interpreting the current finding of a relationship between a cognitive-behavioural measure of psychological mindedness and the alexithymia construct. Firstly, while the correlation between the CB-PM and TAS-20 was only moderate ($r = -.42$), from a theoretical perspective such a finding might be expected. Alexithymia is a much more narrowly defined construct than psychological mindedness as it is currently defined, and is principally concerned with the identification and description of personal emotional experience (Taylor et al., 1997). This contrasts with psychological mindedness, which encompasses the identification of cognitive, emotional, and behavioural domains, and how they relate to each other. Therefore, although one might expect a negative correlation to exist between the two, there is considerable conceptual difference in the breadth of the two constructs to explain why the correlation was moderate rather than large.

Secondly, the difference in the mode of measurement between the TAS-20 and CB-PM is noteworthy. The TAS-20 is a paper and pencil self-report questionnaire, whereas the CB-PM is an ability-based structured interview that uses a pre-

determined scoring procedure. The finding of a moderate correlation between the two measures provides some evidence that the perception of one's ability to describe internal experience (based on self-report) is somewhat in agreement with an observer's perspective (based on a pre-determined scoring criteria). This finding suggests that individuals do have the ability to self-report on their own internal states. This is particularly interesting given that the TAS-20 has been criticised because it asks respondents "who, by definition, have difficulty identifying and describing their emotions, to monitor and make judgments on their internal states and then to articulate their own deficits" (Tull et al., 2005, p. 78). While the current work provides some evidence that individuals can articulate their own deficits, the undergraduate population utilised in the current work demonstrated a mean TAS-20 score of 45.38, which is in the non-alexithymic range (Bagby, Taylor, et al., 1994). It may be the case that individuals in a clinical population with higher levels of alexithymia may have particular difficulties articulating their own deficits. In summary, the current work provides some evidence that a non-clinical population have the ability to report on their own internal emotional experience.

As predicted, there was a significant, positive correlation between the CB-PM and the Psychological Mindfulness Scale (PMS; $r = .23$). While this correlation was low, the theoretical framework guiding the development of the PMS should be taken into account. The PMS was developed within a psychodynamic framework, as is reflected in a number of items, such as the positively coded item 'I think that people who are mentally ill often have problems which began in their childhood'. Conversely, the CB-PM was developed within a cognitive-behavioural framework. Analysis of the content of the two measures suggests that the overlap between them

may reflect both measures tapping into an individual's predisposition towards an internally-focused cognitive style, rather than both measuring the same construct. Therefore, while both are measures of psychological mindedness, the differences in (a) theoretical perspectives, (b) definitions, and (c) modes of measurement between the CB-PM and the PMS are consistent with the current finding of a low positive correlation.

The hypothesis that there will be a positive correlation between the CB-PM and the SRIS Self-Reflection (SRIS-SR) Subscale was not supported. While these non-significant findings were not as predicted, there are considerable differences between the psychological mindedness and self-reflection constructs to account for this finding. Grant et al. (2002) defines self-reflection as "the inspection and evaluation of one's thoughts, feelings, and behaviour" (p. 821). This definition is reflected in the content of items in the SRIS-SR, such as "I rarely spend time in self-reflection" (negatively coded), and "I frequently examine my feelings". These items and many others suggest the SRIS-SR is a measure of how *frequently* an individual engages in self-reflection on their own thoughts, emotions, and behaviour, which is distinct from psychological mindedness as measured by the CB-PM as an *ability*. However, it can also be argued that individuals who frequently engage in self-reflection may be better at identifying thoughts, emotions, and behaviours, and seeing connections between them. Therefore, the current finding of no significant correlation between the CB-PM and the SRIS Self-Reflection Subscale provides less support for the convergent validity of the CB-PM.

Contrary to what was predicted, there were no significant correlation between the CB-PM and the SRIS Insight Subscale (SRIS-IN). Grant et al. (2002) defines insight as “the clarity of understanding of one’s thoughts, feelings, and behaviour” (p. 821). This definition is somewhat vague, and an examination of the SRIS-IN items provides some insight into how one might expect the CB-PM to relate to the SRIS-IN. Some of the SRIS-IN items include “my behaviour often puzzles me” (negatively coded), and “I usually know why I feel the way I do”. These items and others suggest the SRIS-IN is defining insight as the ability to provide cognitive or psychological reasons for why one feels or behaves in particular ways. Hence, it would be expected that the SRIS-IN would be positively correlated with the CB-PM, as gaining insight is likely to be related to being able to see connections between one’s thoughts, feelings, and behaviour. It would be expected that a person might have ‘insight’ if they can relate their behaviour to a particular thought that they had. For example, “I left the room because I thought they were making fun of me”. Therefore, the current finding of no significant correlation between the SRIS-IN and the CB-PM can be interpreted as providing less support for the convergent validity of the CB-PM.

As was predicted, individuals who kept a diary scored significantly higher on the CB-PM than those who did not keep a diary. This was an important finding as it is the only comparison of the CB-PM with an objective behaviour, as opposed to comparisons between subjective self-report measures of various constructs. Individuals who kept a diary were expected to be more psychologically minded than non-diary keepers because (a) writing thoughts and feelings in a diary would be expected to improve one’s ability to describe and relate thoughts, feelings, and behaviours together, and (b) diary keeping reflects an individual’s propensity towards

self-reflection, which many authors suggest is positively related to psychological mindedness (Fenigstein, 1997). Hence, this finding provides further support for the validity of the CB-PM.

Contrary to what was predicted, there was no significant negative correlation between the CB-PM and the neuroticism subscale of the Neo-Five Factor Inventory. It was theorised that individuals who cannot identify how they feel and think are likely to have difficulty regulating problematic emotions. However, the results do not support this, and this finding provides less support for the convergent validity of the CB-PM.

In terms of divergent validity, the CB-PM was not significantly correlated with the agreeableness or conscientiousness scales of the NEO-Five Factor Inventory, with the exception of a low correlation between the CB-PM Identify Subscale and the Conscientiousness personality trait ($r = -.21$). The personality trait of agreeableness was of particular concern for the divergent validity of the CB-PM. The CB-PM structured interview has the potential to generate verbal responses reflecting the respondent's interest in appearing cooperative, considerate, and friendly. Therefore, the lack of a correlation between the CB-PM and the Agreeableness personality trait provides important divergent validity data for the CB-PM.

As predicted, there was a significant low correlation between the CB-PM and WTAR-predicted Verbal IQ, rather than a moderate or high correlation. The purpose of this comparison was to ensure that the CB-PM structured interview was not simply measuring respondent's expressive verbal abilities. The correlation between the CB-

PM and Verbal IQ was low ($r = .16$), suggesting that the CB-PM is capturing an ability that is not just explained by respondent's expressive verbal abilities. That is, the scoring criteria of the CB-PM didn't classify respondents as psychologically minded simply because they could articulate themselves well. Therefore, these results provide further evidence for the divergent validity of the CB-PM.

4.4.2 Limitations of the first study

A limitation of this first empirical investigation was that the correlations found to demonstrate the convergent validity of the CB-PM were mostly of a low magnitude. Stronger correlations between the CB-PM and convergent validity measures would have provided more reliable evidence of the validity of the CB-PM. However, as discussed above, there were notable differences between the CB-PM and the convergent validity measures that help explain these low correlations, such as (a) differing constructs that focus on specific domains, ie., alexithymia predominantly focusing on emotion deficits, (b) differences in theoretical rationales, (c) ability-based vs. self-report measurement, and (d) differences in psychological mindedness definitions, ie., the PMS vs. the CB-PM. Therefore, while most comparisons with the CB-PM did produce low correlations, such a result might be expected given the factors outlined above.

A second limitation of the study was that the participants were non-clinical undergraduate students. The majority of participants were in the non-alexithymic range, making it difficult to determine whether the convergent validity results of the CB-PM would still hold for a clinical population with emotional regulation deficits.

This problem was addressed with an empirical investigation of a depressed population in the third study of the current work.

4.4.3 Summary of findings from the first study

The aim of this first empirical investigation was to determine the psychometric properties and validity of a new Cognitive-Behavioural Measure of Psychological Mindedness (CB-PM) in a non-clinical undergraduate student population. A factor analysis of the CB-PM revealed a two-factor structure, labelled ‘Ability to identify thoughts, emotions, and behaviours’ and ‘Ability to see connections between thoughts, emotions, and behaviours’. The CB-PM Total and Connections Subscale demonstrated high internal reliability while the CB-PM Identify Subscale evidenced moderate internal reliability. Both factors correlated highly with the CB-PM Total score. In addition, the CB-PM demonstrated high test-retest and inter-rater reliability.

Demonstrating some initial evidence for convergent validity, the CB-PM significantly correlated in the expected direction with theoretically related constructs such as alexithymia (measured by the TAS-20), and with a self-report measure of psychological mindedness derived from a psychodynamic framework (the PMS), although the CB-PM did not correlate significantly with self-reflection or insight (measured by the SRIS). In addition, participants who kept a diary about their thoughts and feelings scored significantly higher on the CB-PM than those who did not. There was a significant but low correlation between the CB-PM and WTAR-predicted Verbal IQ, suggesting the CB-PM is not just measuring participant’s verbal ability, providing evidence for the divergent validity of the CB-PM. The lack of a

significant correlation between the CB-PM and Agreeableness and Conscientiousness personality traits provided further support for the divergent validity of the CB-PM. In summary, these results provide some promising initial validity data for this new cognitive-behavioural measure of psychological mindedness.

As discussed earlier, a limitation of this first study is that the CB-PM was compared with self-report measures from either atheoretical or psychodynamic frameworks. Because the CB-PM uses ability-based measurement and is defined and operationalised from a cognitive-behavioural perspective, the second study aims to extend evidence concerning the validity of the CB-PM by comparing the measure with other cognitive-behavioural, ability-based measures.

CHAPTER FIVE

Validating the CB-PM against cognitive-behavioural, ability-based measures

5.1 Introduction

This second empirical investigation addresses some of the limitations outlined in the previous chapter by comparing the CB-PM with cognitive-behavioural, ability-based measures. This chapter firstly discusses (a) the difficulties in comparing the CB-PM with self-report measures, and with measures from different theoretical frameworks, and (b) the development of two cognitive-behavioural, ability-based measures to compare with the CB-PM. Finally, the second empirical investigation regarding the convergent validity of the CB-PM is described.

5.1.1 Self-report vs. ability based measurement

As described earlier, the CB-PM is a structured interview using scoring criteria to establish an ability-based measure of psychological mindedness. Apart from the diary-keeping measure, the questionnaires compared with the CB-PM in the first study were all self-report measures. Self-report measures are designed to assess a person's beliefs about their own competencies within a particular domain (Derksen, Kramer, & Katzko, 2002). In the first study, self-report measures of psychological mindedness, alexithymia, self-reflection and insight, and personality were all compared with the CB-PM. These measures asked the respondent to endorse a series

of statements about their own abilities, thinking, emotional responses, behaviours, and personality, with responses to these self-report questionnaires using a rating scale.

There are a number of difficulties when relying on self-report measures to validate and compare with the CB-PM. Self-report measures rely on a person's self-perception, rather than their actual ability level (Roberts, Zeidner, & Matthews, 2001). Self-perception may not be accurate or even available to the conscious mind, as there are a number of factors that may influence a person's self-appraisal of their abilities, such as individual response sets and social desirability factors. For example, undergraduate psychology students may want to give socially desirable responses that demonstrate they are in touch with their emotions.

Goldenberg, Matheson, and Mantler (2006) compared ability-based and self-report methodologies in the measurement of emotional intelligence (EI), a construct that shares some similarities with the psychological mindedness construct. They compared the Mayer-Salovey-Caruso Emotional Intelligence Test (Mayer, Salovey, & Caruso, 2000), an ability-based measure of EI that includes presenting problems thought to have correct responses, with the 33-item Emotional Intelligence Scale (Schutte et al., 1998) in a diverse community sample (N = 223). They found that the ability-based and self-report scales were not related to one another. The self-report measure was related with self-reported coping styles and depressive affect, while the ability-based measure was related to age, education, and receiving psychotherapy. These findings suggest the perception of one's own EI bears little relation to actual ability. Given the conceptual relatedness of EI and psychological mindedness, these findings suggest there are difficulties when relying on self-report measures (such as

the TAS-20, PMS, and SRIS) to validate an ability-based measure such as the CB-PM.

In summary, when evaluating the convergent validity of the CB-PM, the limitations of self-report measures should be taken into account. Comparisons with other ability-based, rather than self-report measures would therefore provide additional validity data for the CB-PM.

5.1.2 Differing theoretical rationales

As described earlier, the CB-PM uses a cognitive-behavioural framework to define and measure psychological mindedness. The measures that were compared with the CB-PM in the first study (i.e., the PMS, SRIS, and TAS-20) either came from a psychodynamic, or from no particular psychotherapeutic framework.

The PMS (Conte & Ratto, 1997) was specifically designed to assess patient's suitability for psychodynamic therapy (Grant et al., 2002). In light of the theoretical framework guiding the development and validation of the PMS, there are difficulties with interpreting associations between this measure and the CB-PM, as they are measuring related constructs, but from very different theoretical perspectives.

The Self-Reflection and Insight Scale (SRIS) approaches the measurement of psychological mindedness via a metacognitive perspective (Grant et al., 2002). That is, Grant assessed psychological mindedness using the SRIS by measuring the metacognitive processes of self-reflection and insight. Despite adopting a

metacognitive perspective on psychological mindedness, the SRIS is described by Grant as being atheoretical because it does not draw upon a psychotherapeutic framework, such as cognitive-behavioural or psychodynamic therapy.

The TAS-20 is a measure of alexithymia that arose from research on disorders of affect regulation and somatic illness (Taylor et al., 1997). As with the SRIS, the TAS-20 was not based on any particular psychotherapeutic model. Therefore, while the associations found in the first study between the CB-PM and the PMS and TAS-20 provided some initial evidence for the convergent validity of the CB-PM, the differences in theoretical rationales (or lack thereof) between the measures does present a limitation to the findings of the first study. Hence, research evaluating the validity of the CB-PM would benefit from comparisons being made between the CB-PM and other measures that are from the same cognitive-behavioural framework.

5.1.3 Cognitive-behavioural and ability-based measurement relating to psychological mindedness

As discussed in Chapter 3, the CB-PM structured interview generates responses that reflect an individual's ability to identify and see connections between thoughts, emotions, and behaviours in relation to particular situations. Thus, scores on the CB-PM are designed to reflect the client's level of psychological mindedness. The following section describes three measures that are (a) conceptually related to psychological mindedness, as it is currently defined, (b) derived from a cognitive-behavioural framework, and (c) reflect ability-based, rather than self-report measurement.

5.1.3.1 Assessing thought record skills

As described in chapter 2, thought records are used in cognitive-behaviour therapy to (a) record automatic thoughts associated with emotional change, and (b) as a means to evaluate the evidence for and against an automatic thought, generating an alternative, or balanced thought. To challenge the accuracy of an automatic thought, clients need firstly to self-monitor changes in their emotion or mood and notice the thought(s) that preceded this change. That is, it is important that clients are able to see that a connection exists between the thought(s) identified, and how they felt emotionally, and also how they behaved. Once the connection is identified, clients can then work with the therapist to change their thinking, which will in turn alter their emotional and behavioural responses. Therefore, on close inspection, the skills required to complete a thought record appear to be related to the psychological mindedness construct, as it is currently defined.

It is suggested that a client who can identify and see connections between thoughts, emotions, and behaviours (ie., is psychologically minded) will be better able to both (a) self-monitor automatic thoughts that are associated with emotional change, and (b) work to identify new ways of thinking, resulting in different emotional and behavioural outcomes. Therefore, it is suggested that individuals who are able to complete thought records successfully will be more psychologically minded than individuals who find it difficult to complete a thought record.

The Thought Record Skills Assessment (TRSA; Neimeyer & Feixas, 1990) was designed to measure an individual's competence in completing a thought record consistent with Beck's cognitive-behavioural theory of psychopathology (Beck et al., 1979). The TRSA is administered by providing respondents with a blank copy of the Daily Record of Dysfunctional Thoughts (Beck et al., 1979). Respondents are asked to complete the record for a recent stressful situation in their own lives, or on a hypothetical situation if no recent stressor has occurred. The scoring system used by Neimeyer and Feixas (1990) to evaluate the adequacy of responses to the five columns of the thought record, is provided in Table 13.

Close examination of the scoring criteria reveals a significant overlap between the TRSA and the CB-PM. Specific areas of overlap are discussed below:

1. Firstly, the *situation* column of the TRSA provides higher scores for respondents when they can identify the specific situation that triggered the negative emotion. This is comparable to the 'Identification of situations' question in the CB-PM that sets the context for the following CB-PM questions, although the scoring criteria between the two measures are somewhat different.
2. The identification of emotion is a key skill that is emphasised in the scoring criteria of the TRSA. Respondents score higher on both the *emotion* and *outcome* columns when they can identify specific emotions, along with a coinciding emotion rating from 0 to 100. This is similar to the 'identification of emotions' question of the CB-PM, although the scoring criteria of the CB-

PM provides higher scores for more than one emotion and also allows for a limited amount of contamination of automatic thoughts.

3. The automatic thoughts column of the TRSA allocates higher points for responses that identify automatic thoughts that sustain the specified emotion. This relates to a number of items of the CB-PM, including the 'Identification of thoughts' question, although the scoring criteria of the CB-PM allocate more points when the respondent can identify more than one thought. Secondly, the automatic thoughts column of the TRSA also relates to the 'Identifying the connection between thoughts and distressing emotion' question of the CB-PM because both measures allocate higher points to thoughts identified that logically relate to particular emotions.

Given the similarities described above, it is predicted that higher scores on the TRSA will be associated with higher CB-PM scores.

Table 13

Criteria for Scoring Thought Record Skills Assessment, taken from Neimeyer and Feixas (1990)

<p>For each of the five columns in the Dysfunctional Thought Record, provide a score of 0, 1, or 2 according to the criteria below. Because this assessment is intended as a screening device for rudimentary skill acquisition, assign the higher score in "borderline" cases. The total score on the assessment simply represents the sum of individual column scores.</p>	
<i>Situation</i>	
0	Missing or irrelevant responses that fail to specify the situation or context in which the distressing emotion is experienced, e.g., "I feel upset."
1	Marginal descriptions of the problem situation, or descriptions that are confounded with one's automatic thoughts, e.g., "My boss purposely ignored me at the office party."
2	Reasonably complete and "objective" descriptions of a specific situation triggering a negative emotion, e.g., "My husband is three hours late returning from work without phoning me in advance."
<i>Emotions</i>	
0	Missing responses, or responses that specify automatic thoughts rather than feelings, e.g., "I can't take it anymore."
1	Vague emotional descriptions (e.g., "bad", "lousy"), or specific emotions (e.g., "anxious", "sad") unaccompanied by rating of intensity of feeling.
2	Accurate identification and rating of specific feelings uncontaminated by automatic thoughts (e.g., "guilty, 75")
<i>Automatic Thoughts</i>	
0	Missing responses, or responses that are merely restatements of problem situation or emotional reactions, e.g., "He's late again. I feel so lonely."
1	Vague interpretations, or rhetorical questions that obscure the dysfunctional belief that has been activated, e.g., "Putting myself down," "Why does this keep happening to me?"
2	Clear identification of the mental imagery or stream of consciousness that sustains the specified emotion, e.g., "This just proves what a failure I am." "You can never really trust a man."
<i>Rational Response</i>	
0	Missing or inappropriate responses that fail to challenge the automatic thoughts identified, e.g., "I shouldn't feel that way."
1	Weak attempts to dispute or disprove automatic thoughts, or responses that specify no clear adaptive perspective or behaviour, e.g., "Maybe it won't happen." "Hang in there." "You're just catastrophising."
2	Realistic attempts to define the problem in specific behavioural terms that are amenable to problem-solving, seeking evidence that disputes the validity of automatic thoughts, or developing an adaptive alternative interpretation of the situation, e.g., "I can negotiate with him further about my needs." "Just because your child got a bad grade doesn't mean you're a failure as a parent." "His behaviour stems from his alcoholism, and I can't take the blame for that."
<i>Outcome</i>	
0	Missing response or vague statement of a different feeling, other than those identified in Emotions column. e.g., "better."
1	Specification of emotional outcome, but unaccompanied by rating of intensity, e.g., "still somewhat fearful."
2	Clear specification of previous emotion, with rating of its present level of intensity, e.g., "fearful, 25."

5.1.3.2 The development of a scale to measure the ability to discriminate between thoughts, emotions, behaviours, and bodily sensations

The ability to discriminate between thoughts, emotions, behaviours, and bodily sensations has been emphasised in the cognitive-behavioural literature (Beck et al., 1979; Ledley et al., 2005; Meichenbaum, 1985; Persons & Davidson, 2001). For example, in cognitive-behaviour therapy for depression, the therapist focuses upon changing the way clients think, in order to change how they feel (Meichenbaum, 1985). If clients have difficulty discriminating emotions from thoughts, cognitive-behavioural theory would suggest that they will also have difficulty (a) self-monitoring their thoughts and emotions, and perhaps more importantly (b) weighing up the evidence for and against the thought, and deriving a more balanced thought. Therefore, this discriminative ability is an important aspect of cognitive-behavioural intervention.

The ability to identify connections between thoughts, emotions, and behaviours (i.e., to demonstrate psychological mindedness), presupposes the ability to identify and discriminate between them. Hence, it would be expected that individuals with a propensity to discriminate between these components would also demonstrate psychological mindedness.

In the cognitive therapy for depression self-help book 'Mind Over Mood', Greenberger and Padesky (1995) provide a worksheet on page 43 to help clients distinguish between situations, moods, and thoughts. The first five items of the worksheet are presented in Table 14.

Table 14

Padesky and Greenberger's (1995) Worksheet to Help Clients Distinguish between Situations, Moods, and Thoughts

	Situation, Mood, or Thought?
1. Nervous	_____
2. At home	_____
3. I'm not going to be able to do this	_____
4. Sad	_____
5. Talking to a friend on the phone	_____

The Discriminating between Thoughts, Emotions, Behaviours, and Bodily Sensations scale (hereon referred to as The D-TEBBS; see Appendix D) designed for the current study was based on Padesky and Greenberger's (1995) worksheet, which is presented in Table 14. A sample of the first ten items of the D-TEBBS is presented in Table 15.

Table 15

The First Ten Items of the D-TEBBS

	Thought	Emotion	Behaviour	Bodily Sensation
1. Scared				
2. I can't stand it				
3. Phoning the police				
4. Sweating				
5. Frightened				
6. They're being stupid				
7. There's no hope				
8. Shaking				
9. Frustrated				
10. What's wrong with me				

As can be seen from Table 15, the situation component from the Padesky and Greenberger (1995) worksheet has been removed, and behaviour and bodily sensations columns have been included. This inclusion was made to be consistent with the importance of identifying thoughts, emotions, and behaviours emphasised in both (a) cognitive-behavioural theory, and also in (b) the cognitive-behavioural measurement of psychological mindedness. The actual items of the D-TEBBS (eg., 'scared', 'I can't stand it', etc.) have also been modified from the Padesky and Greenberger worksheet.

While bodily sensations are not explicitly mentioned in the current definition used of psychological mindedness, they were included in the D-TEBBS. As described earlier, Davitz (1969) collected accounts of the subjective experience of a variety of emotional experiences and found that perceived bodily reaction was important in defining the quality of each emotion. Consistent with this, Linehan (1993) indicates that being able to observe and describe "the phenomenological experience, including physical sensation, of the emotion" (p. 149) aids in the identification of an emotional response. Therefore, bodily sensations were included in the D-TEBBS because the research literature indicates their centrality in the identification and description of emotional experience.

In summary, it is expected that psychologically minded individuals will have a higher propensity to discriminate between thoughts, emotions, behaviours, and bodily sensations.

5.1.3.3 The development of a scale to measure the ability to identify connections between thoughts, emotions, behaviours, and bodily sensations

The cognitive therapy for depression self-help book 'Mind Over Mood' (Greenberger & Padesky, 1995) also provided a worksheet on page 22 to help clients identify how thoughts are connected to moods, behaviours, and bodily sensations. In essence, the worksheet provided a vignette of a situation where a woman was at a parent-teacher meeting and wanted to raise some concerns which she had about how her son was being taught at school, but she experienced some negative automatic thoughts about how the group might respond. The worksheet then presented a series of questions about how the woman might feel, behave, and the bodily sensations she might experience as a result of her negative automatic thoughts. The exercise was designed to teach and illustrate how different ways of thinking influence how we feel, behave, and experience bodily sensations.

The identifying Connections between Thoughts, Emotions, Behaviours, and Bodily Sensations scale (hereon referred to as the C-TEBBS; see Appendix E) designed for the current study was based on Greenberger and Padesky's (1995) worksheet as described above. The C-TEBBS consists of five different situations with questions about how the respondent might feel, behave, and the bodily sensations they might experience in each situation, based on their thoughts. An excerpt of the first situation of the C-TEBBS is presented in Table 16.

Table 16

The First Situation of the C-TEBBS

David, a 43-year-old man, was sitting around a table at work for a staff meeting. He wanted to raise some concerns he had about the company purchasing a new photocopying machine.

As David was about to speak, he thought, "What if the other staff members don't agree with me? What if they think my concerns are stupid? Maybe I shouldn't raise this issue now, they might disagree with me and there might be a huge argument".

Questions

Based on David's thoughts, which of the following emotions might he be experiencing?

1. Anger
2. Happiness
3. Anxiety
4. Sadness
5. Relaxed

Based on David's thoughts, how do you think he might behave?

1. He will speak up and tell the staff members what he thinks
2. He will remain silent
3. He will speak aggressively and try to argue with staff

Based on David's thoughts, which of the following bodily sensations might he be noticing?

1. Heart beating fast and sweating
2. Heart beating fast and a hot/flushed face
3. Lethargy and sluggishness
4. None of the above

Now, imagine instead that David had thought to himself: "I think it's important that the other workers hear my opinion about the photocopying machine, perhaps they might agree with what I have to say".

[The above three questions are then re-administered]

As can be seen from the table, three questions about how David might feel, behave, and the bodily sensations he might experience, are asked in relation to a thought he had about the situation. After answering these questions, it is suggested that the respondent imagine that David had thought in a different way. Following this, the three questions are re-administered. This modification of David's thinking is

designed to measure the respondent's ability to see that different ways of the thinking in the *same* situation can lead to different emotions, behaviours, and bodily sensations.

The C-TEBBS is essentially a measure of an individual's ability to see how thoughts are connected with emotions, behaviours, and bodily sensations. One difference between the C-TEBBS and the CB-PM is that the C-TEBBS measures an individual's ability to see how thinking *in particular*, relates to emotions, behaviours, and bodily sensations. This is very similar to Ellis' (2003) cognitive model, which asserts that our thinking in response to activating events influences the way we feel and behave. That is, the C-TEBBS measures the consequences of particular ways of thinking, as suggested by Ellis' cognitive model, illustrated in Figure 17:

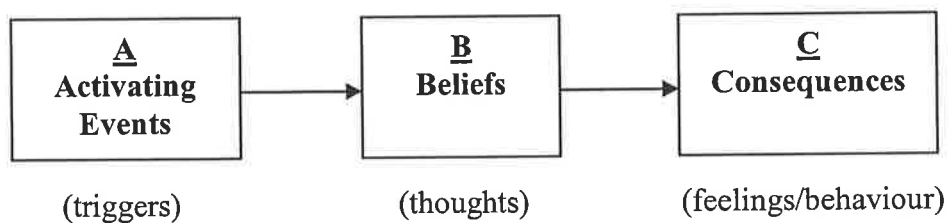


Figure 17. Ellis' cognitive model of psychopathology as a basis for the C-TEBBS.

In contrast, the CB-PM takes a broader perspective on the interconnectedness between thoughts, emotions, and behaviours, as is illustrated in Figure 18.

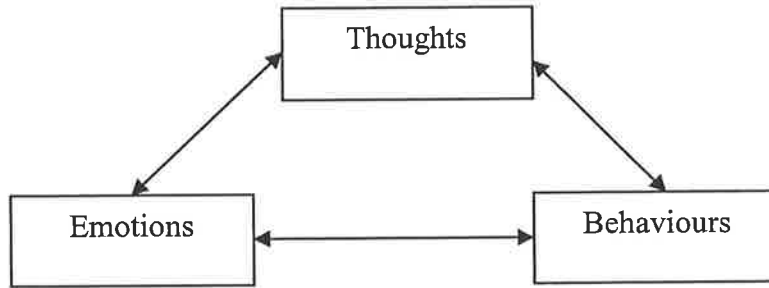


Figure 18. The theoretical rationale of the CB-PM, based on Beck's cognitive model.

As can be seen from Figure 18, the double-ended arrows illustrate that each of these components of experience (thoughts, emotions, and behaviours) can influence one another. This view is also taken by Beck et al. (1979), who suggest that cognitive techniques teach the client to “recognize the connections between cognition, affect, and behavior” (p. 4). This theoretical rationale is slightly different to the C-TEBBS rationale, which emphasises how thoughts *in particular* influence emotion, behaviour, and bodily sensations. As such, the C-TEBBS measures a subset of the connections between thoughts, emotions, and behaviours measured by the CB-PM. Despite this difference, it would be expected that the CB-PM and C-TEBBS will be positively associated with each other as both measures assess respondents' ability to see how thinking is connected with feelings, behaviour, and bodily sensations.

Another difference between the C-TEBBS and the CB-PM is that the C-TEBBS measures the respondent's ability to perceive how *other* people's thoughts influence their feelings, behaviour, and bodily sensations, as described in the vignettes of the C-TEBBS. The CB-PM, on the other hand, requires an individual to identify and see connections between *their own* thoughts, emotions, and behaviours.

Interestingly, there is some disagreement in the literature as to whether psychological mindedness refers to a self- or other- focused ability (Grant, 2001). For example, both Appelbaum (1973) and Baekeland and Lundwall (1975) conceptualise psychological mindedness as a self-focused ability. In contrast, Grant (2001) argues that an individual's ability to be psychological minded about themselves should be related to their ability to do so when observing others (p. 10):

To argue that psychological mindedness in relation to self and psychological mindedness in relation to others are different phenomena is to argue that psychological insights into the self and psychological insights into others may not be related. If this were true, individuals could not apply information learnt about others to themselves and/or vice versa; this is clearly not the case (cf. Bandura, 1977)

Grant (2001) argues that self- and other- focused psychological mindedness could only be considered separate phenomena if the psychological mechanisms underlying thoughts, emotions, and behaviour in oneself differed noticeably from these mechanisms in others. He argues that this is an unsatisfactory proposition as there would be no psychological mechanisms that are common to humanity, suggesting "there would be no rational grounds for claiming to understand another individual, a situation that would make meaningful psychological theorising, research, or practice extremely difficult, if not impossible" (p. 10). However, Grant (2001) does not seem to have considered that (a) the processing and reflection upon *one's own* thoughts, emotions, and behaviour, may involve different cognitive mechanisms to the observation and interpretation of *others'* behaviour, or that (b) individuals may

differ in the degree to which they focus attention towards the self in comparison with attention towards others.

Despite these differences in the conceptualisation of psychological mindedness as a self- or other- related phenomena, the C-TEBBS will provide further evidence relevant to the validity of the CB-PM as both measures assess the respondents' ability to see how thoughts are connected with emotion, behaviour, and bodily sensations. Therefore, it is predicted that there will be a positive association between the CB-PM and the C-TEBBS.

5.1.4 Aims of the second study

The second study aims to address two limitations of the first study, namely, the use of (1) *self-report* and (2) *atheoretical or psychodynamic* measures, to establish the convergent validity of the CB-PM. To overcome these two limitations, this second study gathers data relevant to the validity of the CB-PM using three ability-based, cognitive-behavioural measures theoretically expected to be associated with psychological mindedness. These measures are (1) the Thought Record Skills Assessment (TRSA; Neimeyer & Feixas, 1990), (2) the Discriminating between Thoughts, Emotions, Behaviours, and Bodily Sensations scale (The D-TEBBS), and (3) the Identifying Connections between Thoughts, Emotions, Behaviours, and Bodily sensations Scale (The C-TEBBS).

5.1.5 Hypotheses of the second study

The hypotheses tested in the current study attempt to validate the CB-PM using three ability-based, cognitive-behavioural measures that are theoretically expected to be associated with psychological mindedness. They are as follows:

1. There will be a positive correlation between the CB-PM and the TRSA.
2. There will be a positive correlation between the CB-PM and the D-TEBBS.
3. There will be a positive correlation between the CB-PM and the C-TEBBS.

5.2 METHOD

5.2.1 Participants

Participants were 108 undergraduate psychology students in their first year of study. Participants' age ranged from 17 to 43 years ($M = 21.01$, $SD = 5.23$). There were 40 males and 68 females. The CB-PM data for all 108 students were also utilised previously in the factor analytic component of the first study. Students participated in the study to receive partial credit for a first year psychology topic they were undertaking. The study was approved by the Human Ethics Subcommittee, Psychology Department, Adelaide University.

5.2.2 Measures

Cognitive-Behavioural Measure of Psychological Mindedness (CB-PM). This structured interview was designed as a cognitive-behavioural measure of psychological mindedness based on the behavioural assessment approach. The psychometric properties of the CB-PM were discussed in Chapter 4.

Toronto Alexithymia Scale (TAS-20; Bagby, Parker, et al., 1994). This 20-item self-report measure of alexithymia was discussed in Chapter 4.

Demographic Items. The demographic items of age, gender, and diary-keeping status were recorded for all participants. Diary-keeping status was measured by the following question: “Do you currently keep a journal or diary on a regular basis in which you write about your thoughts and feelings? YES / NO”.

The Thought Record Skills Assessment (TRSA; Neimeyer & Feixas, 1990). The TRSA was designed to measure an individual’s competence in completing a thought record consistent with Beck’s cognitive-behavioural theory of psychopathology. Neimeyer and Feixas administered the TRSA in a study designed to examine the role of homework assignment on the outcome of cognitive-behaviour therapy for depression. Exact scores for the TRSA between two raters were obtained for 83% of the cases, with the remaining 17% of the ratings demonstrated only a one-point discrepancy, indicating excellent inter-rater reliability. Participants with higher TRSA scores by the end of cognitive-behavioural treatment showed superior maintenance of gains in self-rated depression at a follow-up assessment.

A second study by Bright, Baker, and Neimeyer (1999) utilised the TRSA in a study on the relative efficacy of professional and paraprofessional therapists in providing group cognitive-behaviour therapy and mutual support group therapy. Inter-rater reliability was .81, indicating good inter-rater agreement. In addition, better performance on the TRSA was positively related to improvement in depressive symptoms from pre- to post- testing, measured by the Hamilton Rating Scale for Depression (HRSD; Rehm & O'Hara, 1985).

The Discriminating between Thoughts, Emotions, Behaviours, and Bodily Sensations Scale (The D-TEBBS; Appendix D). The D-TEBBS was designed for the current study as a measure of the ability to discriminate between thoughts, emotions, behaviours, and bodily sensations. The D-TEBBS comprises of forty items, where a correct response is scored 1, and an incorrect response scored 0. A total score is derived from summing these items. The psychometric properties of the D-TEBBS are not yet known.

The identifying Connections between Thoughts, Emotions, Behaviours, and Bodily sensations Scale (The C-TEBBS; see Appendix E). The C-TEBBS measures an individual's ability to see how thinking relates to emotions, behaviours, and bodily sensations. In addition, the C-TEBBS measures the respondent's ability to perceive how *others* might feel, behave, and experience bodily sensations, in relation to particular thoughts. The C-TEBBS comprises of thirty items, where a correct response is scored 1, and an incorrect response scored 0. A total score is derived from

summing these items. The psychometric properties of the C-TEBBS are not yet known.

5.2.3 Procedure

The various measures were administered in a private room with only the participant and researcher present. Before commencing, each participant was provided with an information sheet detailing the study (see Appendix F) and a consent form (see Appendix C), which they were requested to read and sign. After providing written, informed consent, participants completed the demographics form, along with the TAS-20, D-TEBBS, C-TEBBS, and CB-PM in randomised order between participants. A random subset of participants ($n = 40$) also completed the Thought Record Skills Assessment. The entire testing procedure took approximately one hour.

5.3 RESULTS

5.3.1 Statistical procedure

All data were analysed using the Statistical Package for the Social Sciences software – Version 12. Various tests and searches were made to check for data entry errors. Because of the assumption of normality for many inferential statistical techniques, checks were made on all variables to assess for skewness and kurtosis. These checks included histogram inspection, normal probability plots, skewness and kurtosis statistics, and the Kolmogorov-Smirnov statistic. While most variables

conformed to a normal distribution, some variables deviated significantly from a normal distribution, and the implications of these deviations are discussed in the relevant sections to follow. Additional testing confirmed there were minimal outliers contained in the data.

5.3.2 Psychometric properties of the D-TEBBS

5.3.2.1 Frequencies and descriptive statistics of the D-TEBBS

The histogram of the D-TEBBS is shown in Figure 19. Visual inspection of the histogram suggests that the D-TEBBS is negatively skewed, and not normally distributed. Dividing the skewness statistic (-1.26) by the skewness standard error (.235) yields a value of -5.36, which is less than -2 , suggesting that the D-TEBBS has a negative skew (Hutcheson & Sofroniou, 1999). Dividing the kurtosis statistic (1.09) by the kurtosis standard error (.465) yields a value of 2.34, which is more than $+2$, suggesting that the D-TEBBS has a leptokurtic distribution (Hutcheson, et al, 1999). Hence, there is clear indication that the D-TEBBS does not conform to a normal distribution.

Given that the highest score obtainable on the D-TEBBS is forty, the descriptive statistics of the D-TEBBS ($M = 34.79$, $SD = 5.57$, with a range from 16 to 40) indicate that in general, participants scored very high on this variable. This is also reflected in the negative skew of the frequency distribution, with the majority of scores clustering towards the positive end of the D-TEBBS frequency distribution.

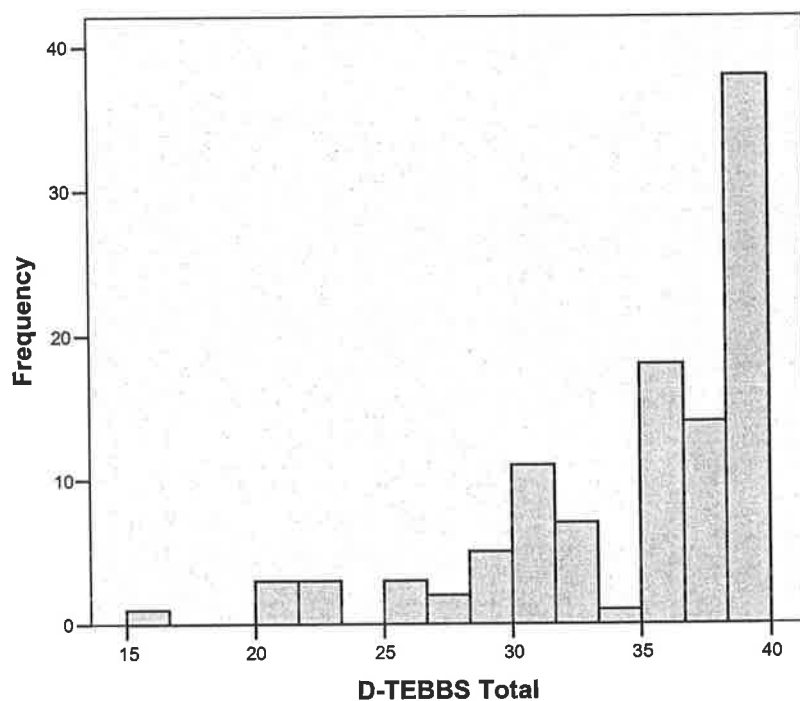


Figure 19. Frequency distribution of the D-TEBBS.

5.3.2.2 Transformation of the D-TEBBS

Because scores on the D-TEBBS were generally very high, this suggests that the majority of participants found some questions very easy. That is, some items may not discriminate well between those individuals who can distinguish between their thoughts, emotions, behaviours, and bodily sensations, and those who cannot. To eliminate easy items that contributed to the high mean score of the D-TEBBS, the items with the highest five mean scores for each category of thoughts, emotions, behaviours, and bodily sensations, were eliminated in the calculation of the D-TEBBS total score. Because there were initially 10 items for each of these four categories, the

D-TEBBS was initially a 40-item scale. After the removal of the highest five mean scores for each of the four categories, the D-TEBBS was reduced to a 20-item scale.

5.3.2.3 Frequencies and descriptive statistics of the 20-item D-TEBBS

The histogram of the 20-item D-TEBBS is presented in Figure 20. As with the 40-item D-TEBBS, the 20-item version still demonstrates a negative skew. Dividing the skewness statistic (-0.91) by the skewness standard error (.235) yields a value of -3.87, which is less than -2, suggesting that the D-TEBBS has a negative skew (Hutcheson & Sofroniou, 1999). Dividing the kurtosis statistic (.158) by the kurtosis standard error (.465) yields a value of 0.34, which is not more than +2, suggesting that the 20-item D-TEBBS no longer has a leptokurtic distribution (Hutcheson, et al, 1999). While the 20-item D-TEBBS no longer has a leptokurtic distribution, there is still strong indication that the 20-item D-TEBBS is negatively skewed and does not conform to a normal distribution.

As with the 40-item version of the scale, the descriptive statistics of the 20-item D-TEBBS ($M = 16.61$, $SD = 3.33$, with a range from 6 to 20) indicate that, in general, participants scored highly on this variable.

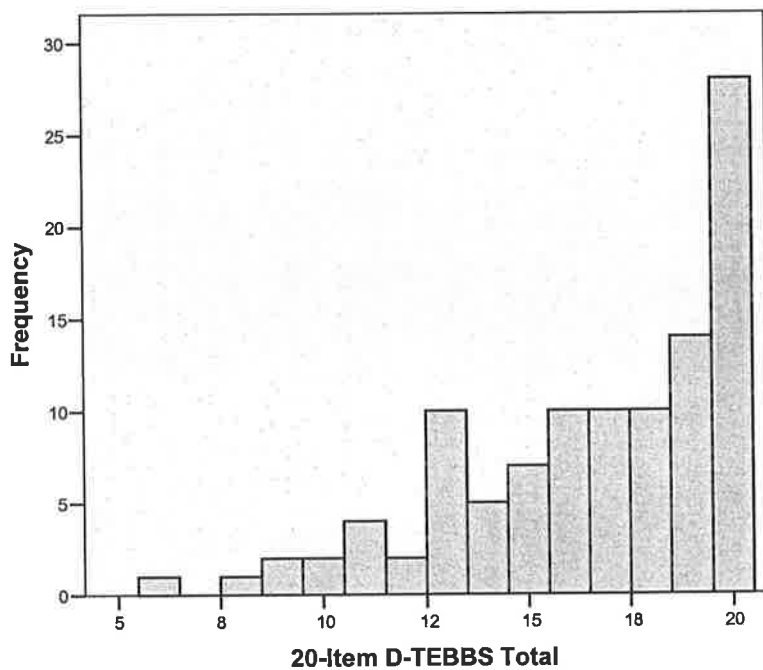


Figure 20. Frequency distribution of the 20-item D-TEBBS.

5.3.2.4 Comparison of the 20 and 40-item versions of the D-TEBBS

Visually comparing Figure 19 with Figure 20, it can be seen that the distribution of scores on the 20-item scale cluster towards the positive axis in a more consistent way than with the 40-item scale, demonstrating more variation in D-TEBBS scores. Also, analysis of the skewness and kurtosis statistics in relation to their standard errors, as described above, indicate that the 20-item D-TEBBS demonstrates a less severe negative skew than the 40-item D-TEBBS and is also non-leptokurtic. Hence, all subsequent analyses involving the D-TEBBS will utilise the 20-item version of the scale. In addition, due to the assumption of normality inherent

in parametric testing, analyses involving the D-TEBBS will include statistical procedures that do not make assumptions about the normality of data.

5.3.2.5 Internal reliability of the D-TEBBS

To determine the internal reliability of the D-TEBBS, a reliability analysis was conducted utilising alpha item-total statistics (see Table 17). As can be seen from the Table, the Cronbach's alpha coefficient was .79, reflecting moderate to high internal consistency of the scale. With the exception of item 6, the deletion of any of the scale items would lower the internal consistency of the D-TEBBS. Because the removal of item 6 would improve the Cronbach's alpha coefficient by only .01, the item was retained.

5.3.3 Psychometric properties of the C-TEBBS

5.3.3.1 Frequencies and descriptive statistics of the C-TEBBS

The histogram of the C-TEBBS distribution is displayed in Figure 21. Visual inspection of the histogram suggests that the C-TEBBS is negatively skewed, and not normally distributed. Dividing the skewness statistic (-1.98) by the skewness standard error (.234) yields a value of -8.46, which is less than -2, suggesting that the C-TEBBS has a negative skew. Dividing the kurtosis statistic (4.97) by the kurtosis standard error (.463) yields a value of 10.73, which is more than +2, suggesting that the C-TEBBS has a leptokurtic distribution. Hence, there is clear indication that the C-TEBBS does not conform to a normal distribution.

Table 17

Reliability Analysis – Scale Alpha Statistics for D-TEBBS

Item	Scale Mean if Item deleted	Scale Variance if item deleted	Corrected item total correlation	Alpha if item deleted
1	15.74	10.49	.228	.790
2	15.72	10.25	.371	.782
3	15.70	10.60	.220	.789
4	15.68	10.42	.361	.783
5	15.68	10.40	.373	.783
6	15.97	10.48	.128	.801
7	15.83	9.93	.387	.780
8	15.80	9.81	.464	.775
9	15.79	10.05	.375	.781
10	15.79	10.05	.375	.781
11	15.83	9.33	.624	.763
12	15.83	9.86	.405	.779
13	15.83	9.66	.496	.773
14	15.80	9.87	.440	.777
15	15.76	10.03	.420	.779
16	15.78	10.38	.244	.789
17	15.78	10.19	.325	.784
18	15.77	10.31	.283	.787
19	15.75	10.18	.361	.782
20	15.73	10.46	.255	.788

Alpha = .791

The highest score obtainable on the C-TEBBS was thirty. Given this, the descriptive statistics of the C-TEBBS ($M = 26.07$, $SD = 3.48$, with a range from 12 to 30) indicate that in general, participants scored very highly on this variable. This is also reflected in the negative skew of the frequency distribution, with the majority of scores clustering towards the positive end of the C-TEBBS frequency distribution.

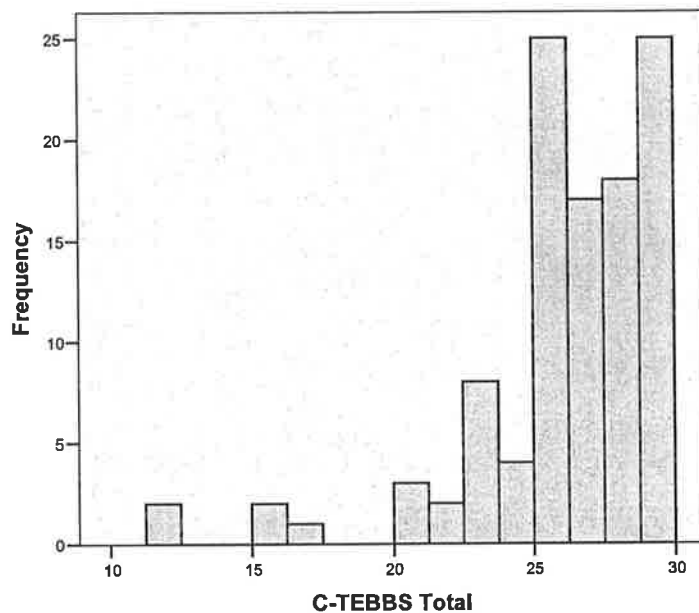


Figure 21. Frequency distribution of the C-TEBBS.

As described above, mean C-TEBBS scores were generally very high, suggesting that most participants found many questions easy. As with the D-TEBBS, it would be desirable to eliminate items from the C-TEBBS that participants found particularly easy (eg., items that demonstrated the highest mean scores) to improve the distribution characteristics of the scale. However, unlike the D-TEBBS, the thirty questions in the C-TEBBS are interdependent as they relate to five different situations. Therefore, it was not justifiable to remove items from the C-TEBBS with high mean scores. Due to the assumption of normality inherent in parametric testing, analyses involving the C-TEBBS will include statistical procedures that do not make assumptions about the normality of data.

5.3.3.2 Internal reliability of the C-TEBBS

A reliability analysis was conducted using alpha item-total statistics to determine the internal reliability of the C-TEBBS (see Table 18). As can be seen from the Table, the Cronbach's alpha coefficient was .78, reflecting moderate to high internal consistency of the scale. With the exception of items 3, 16, 18, and 21, the deletion of any of the scale items would lower the internal consistency of the C-TEBBS. Because the removal of items 3, 16, 18, and 21 would improve the Cronbach's alpha coefficients by only .005, .004, .001, and .005, respectively, the items were retained. It was particularly important to retain these items given the interdependence of items in the C-TEBBS.

5.3.4 The psychometric properties of the Thought Record Skills Assessment

Because the psychometric properties of the Thought Record Skills Assessment (TRSA) have not been investigated extensively in the research literature, analyses of its psychometric properties were conducted.

5.3.4.1 Frequencies and descriptive statistics of the TRSA

Because of the assumption of normality for many parametric statistical techniques, checks were made to ensure the normality of the TRSA. These checks included histogram inspection, skewness and kurtosis statistics, and the Kolmogorov-Smirnov statistic. All of these procedures confirmed that the TRSA data were normally distributed.

Table 18

Reliability Analysis – Scale Alpha Statistics for the C-TEBBS

Item	Scale Mean if Item deleted	Scale Variance if item deleted	Corrected item total correlation	Alpha if item deleted
1	25.11	11.70	.296	.774
2	25.15	11.12	.526	.763
3	25.45	11.36	.161	.784
4	25.22	11.19	.335	.770
5	25.09	11.67	.471	.771
6	25.21	11.16	.374	.768
7	25.11	11.72	.281	.774
8	25.16	11.49	.294	.773
9	25.39	10.78	.364	.769
10	25.36	11.17	.248	.777
11	25.16	11.32	.386	.769
12	25.18	11.43	.292	.772
13	25.17	11.16	.451	.765
14	25.13	11.68	.248	.775
15	25.62	10.84	.314	.773
16	25.30	11.57	.134	.783
17	25.08	11.92	.285	.776
18	25.15	11.86	.106	.780
19	25.19	11.58	.203	.777
20	25.18	11.11	.454	.765
21	25.37	11.48	.139	.784
22	25.09	11.89	.225	.776
23	25.09	11.68	.450	.772
24	25.30	10.98	.348	.770
25	25.14	11.61	.267	.774
26	25.15	11.52	.297	.773
27	25.16	11.45	.314	.772
28	25.11	11.47	.474	.768
29	25.18	11.09	.464	.764
30	25.17	11.42	.312	.772

Alpha = .779

The mean score of the TRSA was 6.43 ($SD = 2.16$), with scores ranging from 2 to 10. This mean score was only slightly higher than a depressed population (Neimeyer & Feixas, 1990), where participants in that study scored a mean of 6.21 on the TRSA.

5.3.4.2 Internal reliability of the TRSA

To determine the internal reliability of the TRSA, a reliability analysis was conducted including alpha item-total statistics (see Table 19). As can be seen from the Table, the internal reliability of the TRSA was moderate, with a Cronbach's alpha coefficient of .71. With the exception of the 'Outcome' item, deletion of any of the scale items would lower the internal consistency of the scale.

Table 19

Reliability Analysis – Scale Alpha Statistics for the TRSA

Item	Scale Mean if Item deleted	Scale Variance if item deleted	Corrected item total correlation	Alpha if item deleted
Situation	5.20	3.75	.364	.704
Emotions	5.10	2.96	.561	.627
Automatic Thoughts	5.08	2.53	.678	.565
Rational Response	5.23	3.25	.472	.665
Outcome	5.10	3.47	.308	.731

Alpha = .713

5.3.5 Descriptive statistics of the CB-PM

It should be noted that the CB-PM data used in the current study ($N = 108$) constitute a subset of the data utilised in the CB-PM factor and reliability analyses

from the first study (N = 208). The descriptive statistics of the CB-PM are shown in Table 20. As can be seen from the Table, the mean score of the CB-PM was 44.49 (*SD* = 10.86, ranging from 22 to 66).

Table 20

Descriptive Statistics, Including Mean, SD, and Range of the CB-PM (N = 108)

	Mean	SD	Min	Max
CB-PM Total	44.49	10.86	22	66
CB-PM Relationship (Factor 1)	23.92	7.39	10	38
CB-PM Identify (Factor 2)	20.57	4.39	10	30

5.3.6 Convergent validity of the CB-PM in relation to ability-based, cognitive-behavioural measures

Because the distributions of both the D-TEBBS and C-TEBBS are negatively skewed and not normally distributed, the assumption of normality required for Pearson product moment correlation testing of these variables was not met. To allow for this violation, Spearman rank correlations (which do not assume that variables are normally distributed) were used to examine the relationship between the CB-PM and the D-TEBBS and C-TEBBS. The relationship between the CB-PM and TRSA were examined using standard Pearson product moment correlations. These correlations are presented in Table 21.

As can be seen from the Table, there were significant, positive correlations between all of the CB-PM Total and Subscales, and the D-TEBBS, C-TEBBS, and TRSA, with the exception of a non-significant correlation between the CB-PM

Connections Subscale and the TRSA ($p > .05$). Therefore, the hypotheses that there will be a positive correlation between the CB-PM and the TRSA, D-TEBBS, and C-TEBBS, were supported.

As can be seen from the Table below, there were no significant correlations between the TAS-20 Total or Subscales and the D-TEBBS, C-TEBBS, or TRSA.

Table 21

Correlations Between the CB-PM and TAS-20, and the D-TEBBS, C-TEBBS, and TRSA

	D-TEBBS ^a	C-TEBBS ^a	TRSA ^b
CB-PM Total	.24*	.28**	.36*
CB-PM Subscales			
Connections (Factor 1)	.21*	.26**	.30
Identify (Factor 2)	.21*	.24*	.39*
TAS-20 Total	-.05	.02	-.04
TAS-20 Subscales			
Difficulty Identifying Feelings	-.11	.12	-.01
Difficulty Describing Feelings	.05	-.03	.08
Externally-Oriented Thinking	-.06	-.09	-.18

Notes: * $p < .05$ ** $p < .01$ (2-tailed)

^a Spearman rank correlations

^b Pearson product moment correlations

5.4 DISCUSSION

5.4.1 *The psychometric properties of the D-TEBBS and C-TEBBS*

Results indicated that participants had high levels of the ability to discriminate between thoughts, emotions, behaviours, and bodily sensations, as measured by the D-TEBBS. This is supported by the D-TEBBS negatively skewed distribution, and the mean D-TEBBS score of 16.61, with a range from 6 to 20. Similar to the findings of the D-TEBBS, the distribution of the C-TEBBS was also negatively skewed, with a mean score of 26.07, and a range from 12 to 30. This suggests that undergraduate psychology students find it relatively easy to discriminate and see connections between *others'* thoughts, emotions, and behaviours. These results are difficult to interpret because the D-TEBBS and C-TEBBS are the first scales of their kind in the research literature. There are at least two possible interpretations of the negative skew and high mean scores of the D-TEBBS and C-TEBBS: (a) undergraduate populations find these abilities relatively straightforward and easy, and/or (b) the D-TEBBS and C-TEBBS do not provide a reliable and valid measurement of the abilities they respectively seek to operationalise.

In support of the first interpretation that these abilities are relatively easy in undergraduate psychology populations, the D-TEBBS and C-TEBBS demonstrated moderate to high internal reliability, with a Cronbach's alpha coefficient of .79 and .78, respectively. These findings suggest that the D-TEBBS and C-TEBBS are reliable measures. Secondly, items from the D-TEBBS were based loosely on Greenberger and Padesky's (1995) worksheet that was designed to help clients

distinguish between situations, moods, and thoughts. Inspection of items of the D-TEBBS (see Appendix D), suggests that the scale has very strong face validity and a straightforward scoring procedure. Similarly, the C-TEBBS was based on Greenberger and Padesky's worksheet designed to provide practice for clients in recognising the connection between thoughts and mood, behaviour, and physical reactions. Inspection of the C-TEBBS' scale items (see Appendix E) also suggests that the scale has strong face validity.

There is also some support for the second interpretation that the D-TEBBS and/or C-TEBBS do not provide a reliable and valid measurement of their respective abilities. The D-TEBBS and C-TEBBS did not significantly correlate with the TAS-20 total or subscale scores. It was expected that both the D-TEBBS and C-TEBBS would correlate with the TAS-20, and particularly the 'Difficulty Identifying Feelings' subscale. That is, in the case of the D-TEBBS, it might be expected that the ability to identify feelings would first require an individual to discriminate feelings from other internal phenomena, such as thoughts or bodily sensations. Similarly, in terms of the C-TEBBS, it might be expected that people who were better able to identify their feelings would demonstrate a stronger ability to see how thinking relates to emotions, behaviours, and bodily sensations. Contrary to these expectations, the TAS-20 'Difficulty Identifying Feelings' Subscale did not correlate with either the D-TEBBS, or the C-TEBBS.

However, another interpretation is that there is a difference in measurement based upon self-report, in contrast to ability-based measures. As discussed by Roberts, Zeidner, and Matthews (2001), self-report measures rely on a person's self-

perception, rather than their actual ability level. It might be the case that participants who fill out the paper and pencil TAS-20 self-report measure are not accurately reporting their actual difficulties identifying feelings. This possibility is partially supported by research on the differences between self-report versus ability-based measurement of emotional intelligence, a construct related to alexithymia (Goldenberg et al., 2006). The authors of this study found that ability-based and self-report measures of emotional intelligence were not related to one another. Therefore, it is possible that the lack of associations found between the TAS-20 and the D-TEBBS and C-TEBBS might be related to differences in self-report versus ability-based measurement.

5.4.2 Validity of the CB-PM

Providing further evidence for the convergent validity of the CB-PM, there were significant, positive correlations between the D-TEBBS and the CB-PM Total and Subscales. However, this finding should be treated with caution as the correlation between the D-TEBBS and the CB-PM was quite small ($r = .24$). Despite this, the D-TEBBS and CB-PM were designed to measure different constructs, so a moderate or high correlation would not be expected between the two measures.

As predicted, there were significant, positive correlations between the C-TEBBS and the CB-PM Total and Subscales. This finding provides support for the convergent validity of the CB-PM. One of the main differences between the C-TEBBS and the CB-PM is that the C-TEBBS measures the respondent's ability to perceive how *other peoples'* thoughts influence their feelings, behaviour, and bodily

sensations. The CB-PM, on the other hand, requires respondents to identify and see connections between *their own* thoughts, emotions, and behaviours. The current findings provide some support that individuals who can see connections between *their own* thoughts, emotions, and behaviours, can also see these connections in *others*. However, given the low correlation between the C-TEBBS and the CB-PM ($r = .28$), this finding is not a particularly strong one.

As described earlier, the Thought Record Skills Assessment (TRSA; Neimeyer & Feixas, 1990) was designed to measure an individual's competence in completing a thought record. As predicted, there was a significant, positive correlation between the CB-PM and the TRSA. One strength of this finding is that, in contrast to the D-TEBBS and C-TEBBS, the TRSA was developed and validated by Neimeyer and Feixas, independent of the current validation study, and was designed for the different purpose of assessing individual's competence in completing a thought record consistent with Beck's cognitive-behavioural model.

A second strength of this finding is the notable conceptual overlap between the CB-PM and the TRSA. These areas of overlap were discussed earlier, but both measures provide higher scores for respondents who can identify (a) situations that triggered the negative emotion, (b) emotions, and (c) thoughts that sustain the negative emotion. These strong areas of overlap are reflected in the slightly higher correlations found between the TRSA and the CB-PM, when compared with the correlations between the D-TEBBS, C-TEBBS and CB-PM. These findings provide further support for the convergent validity of the CB-PM.

5.4.3 Limitations of the second study

A literature review revealed no suitable ability-based, cognitive-behavioural measures that could be compared with the CB-PM for convergent validity purposes, apart from the TRSA. Therefore, one limitation of this second study is that the D-TEBBS and C-TEBBS were developed by the current author and do not have validity or reliability data from previous empirical studies. However, the D-TEBBS and C-TEBBS did demonstrate moderate to high internal reliability, and some initial evidence of convergent validity with the CB-PM.

A second limitation of this study is that all of the correlations between the CB-PM and the D-TEBBS, C-TEBBS, and TRSA were of a relatively low magnitude. One possible reason for this is that participants found the D-TEBBS and C-TEBBS relatively easy and a lack of variance in their score distributions may have lowered correlations with other measures. Hence, the magnitude of correlations between the CB-PM, D-TEBBS and C-TEBBS could be higher in a clinical population that may potentially find these abilities more difficult.

5.4.4 Summary of findings from the second study

Taking these limitations into account, the findings of the second study provide some further support for the convergent validity of the CB-PM. There were significant, positive correlations between all of the CB-PM Total and Subscales, and the D-TEBBS, C-TEBBS, and TRSA, with the exception of a non-significant correlation between the CB-PM 'Connections' Subscale and the TRSA. These

findings are important, as they demonstrate that the CB-PM is associated with three ability-based, cognitive-behavioural measures that are theoretically expected to be associated with psychological mindedness.

Building upon these results, the third empirical investigation to follow extends the first and second studies by providing further validation for the CB-PM in a depressed population. The third study is designed to demonstrate the applicability of the CB-PM to the processes and outcomes of cognitive-behaviour therapy for depression. By exploring the predictive validity and sensitivity to change of the CB-PM, substantive and important issues in cognitive-behavioural therapeutic practice will be addressed.

CHAPTER SIX

The predictive validity and sensitivity to change of the CB-PM in a depressed population

6.1 Introduction

This third study will extend the first and second studies by providing further validation for the CB-PM in a depressed population. The aims of the third study are threefold: (1) to further investigate the convergent validity of the CB-PM in a depressed population, (2) to test the ability of the CB-PM to predict positive outcome in cognitive-behaviour therapy for depression, and (3) to test the sensitivity to change of the CB-PM.

This chapter will discuss the epidemiology of depression and efficacy of its treatments, predictors of outcome in cognitive-behaviour therapy for depression, and the potential clinical utility of the CB-PM in the cognitive-behavioural treatment of depression. Finally, the methods, results, and interpretation of the third empirical investigation will be described.

6.1.1 Epidemiology of depression

The Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition (DSM-IV; American Psychiatric Association, 1994) describes Major Depressive Disorder as a common psychiatric disorder characterised by depressed or sad mood,

loss of interest or pleasure, feelings of guilt or low self-worth, sleeping difficulties, changes in appetite, low energy, and poor concentration. The emotional, social and economic burden of depression for sufferers, their families and society is considerable, with 12-month prevalence rates estimated at 2.9–12.6% and lifetime risk estimated at 17–19% (Kessler et al., 1994). Because depression is often a chronic condition with relapse rates of 50–80% in those with previous depression, the World Health Organisation predicts that by 2020, depression will be the second biggest contributor to ill-health burden world-wide (Murray & Lopez, 1998).

6.1.2 Efficacy of cognitive-behaviour therapy for depression

Three randomised clinical trials have found cognitive-behaviour therapy and pharmacotherapy to be equally efficacious in the treatment of depression (Elkin et al., 1989; Hollon et al., 1991; Murphy, Simons, Wetzel, & Lustman, 1984). The three studies found cognitive therapy and pharmacotherapy to effect a large decrease in depressive symptomatology. Because clinical depression is an episodic disorder, it is also important to consider whether treatment produces an enduring improvement in depressive symptoms. Several studies including a naturalistic follow-up have found cognitive therapy to have a stronger prophylactic effect against future depression at one or two years following treatment, when compared with pharmacotherapy (Blackburn, Eunson, & Bishop, 1986; Evans et al., 1992; Kovacs, Rush, Beck, & Hollon, 1981).

6.1.3 Predictors of treatment outcome for cognitive-behaviour therapy and other psychotherapies for depression

While cognitive-behaviour therapy has been demonstrated to be an efficacious treatment for depression, there is considerable variability in client responsiveness to such therapy (Haby, Donnelly, Corry, & Vos, 2006). Research over the last ten years has increasingly focused on the factors that might predict outcome in cognitive-behaviour therapy for depression. This section briefly describes research highlighting important predictive factors in the cognitive-behavioural treatment of depression.

6.1.3.1 Therapeutic alliance

A number of studies have demonstrated the therapeutic alliance between therapist and client to be a consistent predictor of outcome for a range of psychotherapies (Constantino, Castonguay, & Schut, 2002). A meta-analytic review of 68 studies on the therapeutic alliance by Martin, Garske, and Davis (2000) reported the overall alliance-outcome correlation to be .22. A large study by Klein et al. (2003) explored the possibility that the variance in outcome predicted by the alliance may be the result of spurious variables. The authors treated 367 chronically depressed outpatients with the Cognitive-Behavioural Analysis System of Psychotherapy (CBASP; McCullough & Goldfried, 1999), alone, or with medication. In particular, they addressed the potential confounds of (a) early change in depression which may influence both the alliance and subsequent change in depressive symptoms, and (b) patient characteristics that may contribute to a poor alliance and poor outcome. The results of the study unambiguously demonstrated that the early alliance uniquely

predicts subsequent change in depressive symptoms even after controlling for prior levels of depression and eight prognostically relevant client characteristics. Hence, the therapeutic alliance is one of the most consistent predictors of responsiveness to psychotherapy (including cognitive-behaviour therapy) for depression.

6.1.3.2 Therapist competence

Recent attention in the research literature has been paid to the question of whether therapist competence predicts treatment outcome in psychotherapy. While it can be difficult to define, Shaw et al. (1999) refer to therapist competence as “the skilfulness of the therapist in providing a therapeutic milieu, in conceptualising the patient’s distress and problems within a specific theoretical framework, and in applying recognized techniques or methods consistent with the goals of the treatment” (p. 838).

Shaw et al. (1999) investigated the role of therapist competence in the outcome of cognitive-behaviour therapy for depression as part of the National Institute of Mental Health Treatment of Depression Collaborative Research Program (TDCRP; Elkin, 1994). Findings of the study provided some support for the relationship between therapist competence (as measured by the Cognitive Therapy Scale; Young & Beck 1988), and the reduction of depressive symptomatology. However, these findings were not as strong or consistent as expected, because the results were based on the Hamilton Rating Scale for Depression, and did not generally hold for self-report measures of depression severity.

In a study on therapist competence and outcome in cognitive-behaviour therapy for depression, Trepka, Rees, Shapiro, Hardy, and Barkham (2004) used the Cognitive Therapy Scale to assess therapist competence in one randomly selected therapy session from 30 courses of treatment for depression. Findings demonstrated a significant relationship between therapist competence and outcome, although this relationship did not hold when therapeutic alliance was controlled for.

6.1.3.3 *Experiencing*

In a study examining the predictive effect of a number of process variables on cognitive therapy for depression outcome, Castonguay, Goldfried, Wisner, Raue, and Hayes (1996) found that increased 'experiencing' by the client significantly predicted positive outcome. According to the authors, 'experiencing' refers to the client's ability to focus on and accept their affective reactions. According to Teasdale (1993), 'experiencing' in cognitive therapy may facilitate change by helping clients' access and modify basic meaning structures which have maintained the depression. A different interpretation of the importance of experiencing was given by Greenberg and Safran (1987), who suggest that the experience of affective reactions provides information to clients about their needs, which may lead to behavioural change in the service of meeting such needs.

6.1.3.4 Initial client characteristics

In a meta-analytic study to determine factors that may predict outcome in cognitive-behaviour therapy for depression, panic disorder, and generalised anxiety disorder, Haby et al. (2006) found that increased pre-treatment depression predicted a less favourable response in cognitive-behaviour therapy. The authors found that with each point increase in mean BDI scores at pre-treatment, the effect size of cognitive-behaviour therapy decreased by .085. The National Institute of Mental Health Treatment of Depression Collaboration Treatment Programme study (NIMH; Elkin et al., 1989) also found that cognitive therapy was significantly less effective with *severely* depressed outpatients. Other studies examining patient characteristics have indicated that chronicity and the presence of personality disorders also predict a less favourable response to cognitive-behaviour therapy for depression (Fennell & Teasdale, 1982; Frank, Kupfer, Jacob, & Jarrett, 1987; Scott, 1992).

6.1.3.5 Homework compliance

The use of homework assignments in cognitive-behaviour therapy, such as behavioural experiments and thought-monitoring, has been well-emphasised in the cognitive-behavioural literature (Beck et al., 1979; Ledley et al., 2005). Most practicing psychologists set homework tasks for their clients, and consider homework to be an essential component of their therapeutic practice (Kazantzis & Deane, 1999; Norcross, Alford, & DeMichele, 1992). In a meta-analytic study (27 studies, N = 1702), Kazantzis, Deane, and Ronan (2000) investigated the relationship between homework compliance and outcome in cognitive-behaviour therapy. The authors

found a weighted mean effect size for the relationship of $r = .22$, concluding that homework compliance is an essential component of cognitive-behaviour therapy.

6.1.4 The clinical utility of the CB-PM in the cognitive-behavioural treatment of depression

As discussed earlier, the CB-PM is based on the definition of psychological mindedness as the ability to identify one's thoughts, emotions, and behaviours, and see connections between them. By using a cognitive-behavioural assessment approach to structured interviewing, the CB-PM yields an ability-based measure of psychological mindedness using the scoring procedure discussed in Chapter 3. This section will discuss how the CB-PM might be a clinically useful measure in terms of both (a) the prediction of cognitive-behaviour therapy for depression outcome, and (b) psychological mindedness as an ability that may improve over the course of cognitive-behaviour therapy for depression.

6.1.4.1 Psychological mindedness as a predictor of outcome in CBT for depression

While researchers and clinicians have identified psychological mindedness as a plausible predictor of psychodynamic therapy outcome, the construct has received very little attention in the cognitive-behavioural literature. The only study to examine a possible relationship between psychological mindedness and cognitive-behaviour therapy outcome was an unpublished doctoral dissertation by Kadish (1999). This study explored psychological mindedness as a predictor of treatment outcome in a seven-week cognitive-behavioural treatment program for social phobia. Kadish found

that adults with social phobia improved significantly in treatment, and that improvement was predicted by one subscale of the Psychological Mindedness Scale (PMS; Interest in meaning and motivation of own and others' behaviour), but not predicted by overall PMS scores, or any other subscale. While this finding provides some limited support for the utility of the psychological mindedness construct as a predictor of cognitive-behaviour therapy outcome, one limitation of this study is the theoretical orientation of the psychological mindedness measure utilised. Kadish used the PMS measure, developed from within a psychodynamic perspective and originally created to assess client suitability for psychodynamic therapy. The mismatch between the theoretical rationale of the PMS and the cognitive-behaviour therapy utilised may have influenced the generally non-significant findings of the study. Hence, the research literature has not addressed the ability of a cognitive-behavioural measure of psychological mindedness to predict cognitive-behaviour therapy outcome.

Safran, Segal, Vallis, Shaw, and Samstag (1993) were the only other researchers to touch upon a possible relationship between psychological mindedness and cognitive-behaviour therapy outcome. The authors developed the Suitability for Short-Term Cognitive Therapy (SSCT) interview procedure, designed to evaluate the potential appropriateness of patients for short-term cognitive therapy with an interpersonal focus. To determine the suitability of clients for cognitive therapy, the SSCT included criteria such as 'Accessibility of automatic thoughts' and 'Awareness and differentiation of emotions'. While these criteria relate closely to the ability to *identify* thoughts, emotions, and behaviours (an element of the current cognitive-behavioural definition of psychological mindedness), Safran et al. (1993) did not explicitly address the psychological mindedness construct. Results of the study

indicated that scores on the SSCT scale predicted the outcome of short-term cognitive therapy on both therapist and patient-rated measures. The authors did not present data related to the predictive value of the two individual items of the SSCT in relation to treatment outcome.

It might be expected that individuals with a stronger ability to identify thoughts, emotions, and behaviours would be more likely to benefit from cognitive-behaviour therapy for depression. Without the ability to identify and discriminate between thoughts and emotions, it would be difficult for the client to work with the therapist to (a) self-monitor these components of experience and (b) challenge and generate alternative, more adaptive ways of thinking, which is a crucial aspect of emotional/behavioural change in cognitive-behaviour therapy. Hence, it would be expected that the second factor of the CB-PM ('Ability to identify thoughts, emotions, and behaviours') might be predictive of outcome in cognitive-behaviour therapy for depression.

The second aspect of the cognitive-behavioural definition of psychological mindedness, which is the 'ability to see connections between thoughts, emotions, and behaviours', might also be related to outcome in cognitive-behaviour therapy for depression. As discussed above, the cognitive-behavioural model emphasises the connections between thoughts, emotions, and behaviours. One of the most important aspects of cognitive-behaviour therapy for depression involves self-monitoring the thoughts related to depressed mood. Following the identification of thoughts associated with depressed mood, the therapist uses a number of techniques to challenge this thinking to effect change in emotional and behavioural functioning.

Therefore, emotional/behavioural change, and success in cognitive-behavioural treatment, relies on clients' ability to see connections between thoughts, emotions, and behaviours. Without this ability, it might be difficult to engage with a client in cognitive-behavioural treatment in order to effect cognitive change.

Therefore, it is predicted that psychological mindedness, as measured by the CB-PM, will predict outcome in cognitive-behavioural treatment for depression. Such a finding would provide support for the predictive validity of the CB-PM. Consistent with the emphasis on cognitive change in cognitive-behaviour therapy, it is also predicted that the relationship between psychological mindedness and outcome will be mediated by change in negative ideation.

6.1.4.2 The stability of psychological mindedness over the course of psychotherapy

As discussed by McCallum and Piper (1997), inherent in much of the discussion on psychological mindedness is the assumption that it is a relatively stable trait after a person reaches adulthood. This belief is also reflected in the high test-retest reliability of the Psychological Mindedness Scale (Conte & Ratto, 1997). Similarly, the CB-PM, as described in Chapter 4, has also demonstrated high test-retest reliability over a three-month period in an undergraduate student sample. This section will outline the research literature regarding the stability of the psychological mindedness construct over the course of (a) psychodynamic therapy, and (b) cognitive-behaviour therapy.

6.1.4.2.1 The stability of psychological mindedness over the course of psychodynamic therapy

One issue that has received little attention in the research literature is whether an individual's level of psychological mindedness can increase during the course of psychotherapy. While McCallum and Piper (1997) argue that the manifestation of psychological mindedness can be influenced by motivational factors, most authors tend to discuss psychological mindedness in the research literature as a stable trait that does not change, even after psychotherapy. As suggested by Zimet (1995), researchers tend to presuppose that most of what can be known about an individual's psychological mindedness can be quantified before the commencement of therapy. This position is further reflected by the majority of researchers only measuring psychological mindedness *before*, and not *after* psychotherapy.

A notable exception to this position was provided by Zimet (1995), who examined the question of whether psychological mindedness can improve during the course of psychotherapy. Zimet (1995), "scant attention has been paid to the conceptual question of whether a patient's psychological mindedness can be progressively developed during treatment. Is it not conceivable that patients become more psychologically minded about themselves through the process of therapy?" (p. 1). To this end, the in-therapy behaviour of twenty-four outpatients were assessed by six independent judges, who rated a total of sixty minutes of each participant's behaviour at four different points in time. Observer measurement instruments for psychological mindedness included the PMAP, and for related constructs, the Experiencing Scale (Klein, Mathieu Coughlan, & Kiesler, 1986), and the Modes of

Self-Reflection Scale (Hatcher, 1972). Zimet found that psychological mindedness along with related constructs, was stable over the course of therapy, and “therefore difficult to alter as a function of the treatments provided these subjects” (p. 2).

Similarly, a validation study of the Psychological Mindedness Assessment Procedure (PMAP; McCallum & Piper, 1990), measured psychological mindedness in 79 psychiatric outpatients before and after psychodynamically oriented, short-term group therapy. They found psychological mindedness to remain stable over this time. Notably, both of these studies used a psychodynamic measure of psychological mindedness (the PMAP), defining the construct as “the ability to identify dynamic (intrapsychic) components and to relate them to a person’s difficulties” (p. 412) and applying the measure to psychodynamic therapy. These findings are not generalisable to other measures of psychological mindedness derived from different theoretical frameworks. Nevertheless, the general consensus among clinical researchers is that psychological mindedness is a stable trait, even after a course of psychotherapy.

6.1.4.2.2 Psychological mindedness and cognitive change mechanisms during the course of cognitive-behaviour therapy for depression

To date, no study has used a cognitive-behavioural measure of psychological mindedness to examine whether a course of cognitive-behavioural treatment increases psychological mindedness. Given the cognitive-behavioural framework from which the CB-PM was derived, it is possible that the skills learnt during the course of cognitive-behaviour therapy may serve to improve an individual’s ability to see connections between thoughts, emotions, and behaviours. This section will briefly

describe how some of the common techniques for cognitive change utilised in cognitive-behaviour therapy for depression may increase an individual's level of psychological mindedness.

Thought records

In cognitive-behaviour therapy for depression, clients complete thought records to monitor thoughts that are associated with negative emotion (such as depression), consider the evidence for and against the negative automatic thought, and generate alternative, more balanced thoughts (Beck et al., 1979; Meichenbaum, 1985; Persons, Davidson, & Tompkins, 2001). It is likely that completing thought records (and using other cognitive-behavioural strategies for altering cognitions) will increase an individual's psychological mindedness because the client is encouraged to (a) self-monitor thoughts associated with emotions and situations, and (b) generate alternative, balanced thoughts, and notice a change in the intensity of the associated emotion. Through working on a thought record in this way, clients receiving cognitive-behaviour therapy gain practice and learn skills that improve their ability to identify and see connections between how they think, feel, and behave (i.e., they demonstrate increased psychological mindedness).

Identifying and Labelling Cognitive Distortions

In cognitive-behaviour therapy, the therapist works with the client to identify and describe cognitive distortions, which are biases affecting interpretations of events in a way that is consistent with the content of dysfunctional schemas (Wells, 1997).

Identifying cognitive distortions involves (a) identifying problematic, maladaptive thoughts, and (b) checking the content of such thoughts for biases or distortions. There are two ways that identifying and labelling cognitive distortions might improve psychological mindedness: (1) clients' gain practice in identifying thoughts, and (2) identifying cognitive distortions and adjusting one's thinking to account for these distortions leads to a change in emotional response. This would likely lead to the experiential knowledge that changing one's thinking leads to a change in emotion, resulting in improved psychological mindedness.

Behavioural Experiments

In the cognitive-behavioural framework, the main function of behavioural experiments is to challenge belief at the automatic thought, belief, and schema levels (Wells, 1997). For example, a client with the belief 'Nobody likes me' might feel depressed and engage in withdrawal behaviour. A behavioural experiment could be designed where the client talks with three people at a party, observes their reactions, and compares the belief with this new data to check for inconsistencies. This example illustrates how a change in behaviour (talking to people at the party, rather than withdrawing) leads to different environmental contingencies (more positive reactions from people), resulting in a change in thinking (e.g., 'Some people like me') and emotion (less depressed mood). In this way, behavioural experiments can serve to demonstrate how thoughts, emotions, and behaviours are all inter-related. Hence, the cognitive, emotional, and behavioural processes involved in conducting behavioural experiments will likely improve an individual's psychological mindedness.

In summary, it is predicted that psychological mindedness, as measured by the CB-PM, will increase during the course of cognitive-behavioural treatment for depression. Such a finding would demonstrate that the CB-PM is sensitive to change.

6.1.4.3 Psychological mindedness and the therapeutic alliance

According to Bordin (1979), the therapeutic alliance is the combination of (a) client and therapist agreement on goals, (b) agreement on how to achieve the goals, and (c) the development of a personal bond between therapist and client. While Rogers' (1957) client-centred therapy has placed an emphasis on the contributions a therapist can make to the therapeutic alliance (eg., empathy, unconditional positive regard, and congruence), less attention has been given to the contribution a client can make to this alliance. In particular, it is possible that a client's level of psychological mindedness might influence this alliance. For example, in cognitive-behaviour therapy for depression, psychologically minded clients are more likely to see mood problems as related to how they think and interpret events. This perspective is congruent with the cognitive-behavioural therapist, who works from a similar perspective in terms of how the clients thinking influences their mood and difficulties. This shared perspective is likely to result in the therapist and client sharing similar goals and developing a personal bond. Therefore, it is predicted that higher pre-treatment psychological mindedness will predict improved therapeutic alliance developing over the course of cognitive-behaviour therapy.

6.1.5 Aims of the third study

This third study will extend the first and second studies by providing further validation to the CB-PM in a depressed population. The aims of the third study are threefold: (1) to further investigate the convergent validity of the CB-PM in a depressed population, (2) to test the ability of the CB-PM to predict positive outcome in cognitive-behaviour therapy for depression, and (3) to test the sensitivity to change of the CB-PM.

6.1.6 Hypotheses of the third study

The hypotheses to be tested in the third study attempt to validate the cognitive-behavioural measure of psychological mindedness (CB-PM) in a clinical sample of depressed outpatients before and after cognitive-behaviour therapy.

1. The CB-PM will demonstrate convergent validity in a depressed outpatient sample

1.1 There will be a negative correlation between the CB-PM and the TAS-20.

1.2 There will be a positive correlation between the CB-PM and the PMS.

1.3 Individuals who keep a diary will have higher mean CB-PM scores than individuals who do not keep a diary.

2. *The CB-PM will predict positive outcome in cognitive-behaviour therapy for depression*

2.1 For the therapy group, higher pre-treatment CB-PM scores will be associated with decreased post-treatment BDI-II scores, after controlling for pre-treatment BDI-II scores.

2.2 For the therapy group, the relationship between pre-treatment CB-PM scores and post-treatment BDI-II scores (after controlling for pre-treatment BDI-II scores) will be mediated by post-treatment ATQ scores (after controlling for pre-treatment ATQ scores).

2.3 Higher pre-treatment CB-PM scores will be associated with higher Working Alliance Inventory (WAI) scores.

3. *The CB-PM will demonstrate sensitivity to change over the course of cognitive-behaviour therapy*

3.1 Mean post-treatment therapy group CB-PM scores will be higher than mean post-treatment control group CB-PM scores, after controlling for pre-treatment CB-PM scores.

3.2 For the therapy group, a higher number of therapy sessions attended will be associated with higher post-treatment CB-PM scores, after controlling for pre-treatment CB-PM scores.

3.3 For the therapy group, larger CB-PM change scores from pre- to post-treatment will be associated with larger decreases in BDI-II scores from pre- to post-treatment.

6.2 METHOD

6.2.1 Participants

Participants were 41 community outpatients referred for psychological therapy for depression. These participants were recruited through The North West Adelaide Mental Health Service Port Adelaide Community Treatment Team, and the West Adelaide Community Treatment Team. Participants' age ranged from 20 to 63 years ($M = 42.39$, $SD = 10.85$). There were 21 males and 20 females. In terms of marital status, 54% were married, 20% single, 17% divorced, and 9% were in a de facto relationship. In terms of occupational status, 29% were employed, 41% unemployed, 10% students, 15% homemakers, and 5% were retired.

Participants were given an information sheet (see Appendix G) and a consent form (see Appendix H) by their clinical psychologist in either their first, second, or third cognitive-behaviour therapy session, and asked if they were willing to be contacted via telephone by the researcher in the next few days. Participants who agreed to be phoned by the researcher received a phone call 2-3 days after this meeting, at which time the researcher explained the study further, and invited the participant to arrange a time and location to conduct the study. It was at this meeting with the researcher that participants provided written informed consent. The study was approved by the Human Ethics Subcommittee, Psychology Department, Adelaide University, and the North Western Adelaide Health Service Ethics of Human Research Committee.

6.2.2 Inclusion criteria

- Ability to understand the nature and requirements of the research programme, and provide written, informed consent.
- Adult population between 18 and 65 years of age.
- A current DSM-IV diagnosis of major depressive disorder (American Psychiatric Association, 1994) as confirmed by the Major Depressive Episode subsection of the Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1998), and a BDI-II score of greater than 13.
- Ability to cooperate sufficiently to allow participation in the research programme (eg., reasonable grasp of written and spoken English)
- Anti-depressant medication is allowable.

6.2.3 Exclusion criteria

- Current or previous psychotic episodes, as measured by the 'Psychotic Disorders' section of the MINI.
- A learning disability.
- Known organic brain disorder.

6.2.4 Withdrawal criteria

- Participants were informed that they were able to withdraw from the research programme at any stage.

- Participants developing any of the exclusion criteria were asked to withdraw from the research study, but continue with treatment as usual.

6.2.5 Measures

Demographic Items (see Appendix I). The demographic items of age, gender, occupational status, marital status, medication status, and diary keeping status were recorded for all participants. Diary keeping status was measured by the following question: “Do you currently keep a journal or diary on a regular basis in which you write about your thoughts and feelings? YES / NO”.

Cognitive-Behavioural Measure of Psychological Mindedness (CB-PM). This structured interview was designed as a measure of psychological mindedness based on a cognitive-behavioural framework. Promising psychometric properties of the measure were demonstrated by the first and second studies described in the current thesis.

Psychological Mindedness Scale (Conte et al., 1996). This 45-item self-report measure of psychological mindedness based on psychodynamic theory, was discussed in chapter 4.

Toronto Alexithymia Scale-20 (TAS-20; Bagby, Parker, et al., 1994). This 20 item self-report measure of alexithymia was discussed in Chapter 4.

Beck Depression Inventory-II (BDI-II). The BDI-II (Steer, Ball, Ranieri, & Beck, 1999) is a 21-item self-report scale measuring severity of depressive symptoms. Each item comprises four statements reflecting gradations in the intensity of depressive symptoms. Respondents are asked to indicate the statement that best describes the way they have felt over the past week. Each statement corresponds with a score of 0, 1, 2, or 3 and an overall score is derived from the summation of individual items. The following scoring criteria is used to classify the severity of depressive symptoms: 0-13, minimal depression; 14-19, mild depression; 20-28, moderate depression; and 29-63, severe depression. The psychometric properties of this measure are well established (Beck, Steer, & Garbin, 1988).

Automatic Thoughts Questionnaire (ATQ; Hollon & Kendall, 1980). The ATQ measures the frequency of automatic negative thoughts associated with depression. The ATQ examines four areas of depressive thought: (1) personal maladjustment and desire for change, (2) negative self-concept and negative expectations, (3) low self-esteem, and (4) helplessness. Convergent validity for the questionnaire has been established with statistically significant correlations between the ATQ, Beck Depression Inventory, and the Minnesota Multiphasic Personality Inventory – Depression Subscale (Hollon & Kendall, 1980). The internal consistency of the scale has been found to be high (Cronbach's alpha = .96; Hollon & Kendall, 1980).

Sheehan Disability Scale (SDS; Sheehan et al., 1998). The SDS is a 3-item self-report scale that measures client impairment at work, socially, and in the family. Participants respond using a 10-point scale, ranging from 'Not at all impaired' to 'Very severely impaired'. The SDS has been used to assess disability primarily in

anxiety and depressive disorders (Olfson et al., 1997). In a primary care group practice setting, patients with major depressive disorder have been found to be significantly more disabled than patients with no mental disorder (Leon, Olfson, Portera, Farber, & Sheehan, 1997).

Working Alliance Inventory (WAI; Horvath & Greenberg, 1989). The WAI is the most commonly used measure of the therapeutic alliance and has undergone comprehensive empirical validation (Klein et al., 2003). The WAI correlates moderately with other measures of the alliance and has been shown to consistently predict psychotherapy outcome (Horvath, 1994; Klein et al., 2003). The WAI consists of three subscales, (1) Goals, reflecting client and therapist agreement on the goals of treatment, (2) Tasks, reflecting client and therapist agreement on how to reach these goals, and (3) Bond, reflecting the affective relationship between the therapist and client. The client-rated short form of the WAI was used in the current study as empirical studies have demonstrated the interchangeability of the full and short form versions of the WAI (Busseri & Tyler, 2003; Tracey & Kokotovic, 1989).

6.2.6 Procedure

The measures were administered individually to therapy participants at the beginning of cognitive-behaviour therapy (anywhere between 0 to 3 weeks into therapy) and at post-treatment, defined as three months after this first testing session. It should be noted that participants were receiving cognitive-behaviour therapy as part of their normal treatment programme. Hence, the therapy received by participants

was not provided for this research in particular. The researcher was involved only in the administration of the battery of measures.

The five therapists providing cognitive-behaviour therapy throughout this study did not use manualised or uniform cognitive-behavioural treatment methods. Instead, they responded in the affirmative to the question asked by the researcher, “Do you currently use a predominantly cognitive-behaviour therapy approach to the treatment of your clients?”

The measures were also administered to a control group who were on a waiting list to receive psychological services for a range of psychiatric disorders. These participants were recruited from The North West Adelaide Mental Health Service Port Adelaide Community Treatment Team. The inclusion, exclusion, and withdrawal criteria for the control group were the same as for the therapy group. The measures were re-administered at a 3-month follow-up.

The various measures were administered in a private room with only the participant and researcher present. Before commencing, each participant was provided with a second copy of the information sheet and consent form provided to them by their psychologist, which they were requested to read and sign. After giving written, informed consent, participants completed the demographics form, PMS, TAS-20, BDI-II, ATQ, SDS, and CB-PM in randomised order between participants. The entire testing procedure took approximately an hour. All participants again completed the measures at a 3-month follow-up session, and also completed the WAI.

6.3 RESULTS

6.3.1 *Statistical procedure*

All data were analysed using the Statistical Package for the Social Sciences software – Version 12. Various tests and searches were made to check for data entry errors. Because of the assumption of normality for many inferential statistical techniques, checks were made on all variables to assess for skewness and kurtosis. These checks included histogram inspection, normal probability plots, skewness and kurtosis statistics, and the Kolmogorov-Smirnov statistic. While some variables deviated slightly from a normal distribution, these were judged not to be adequate to necessitate the transformation of variables. Further testing confirmed there were minimal outliers contained in the data.

6.3.2 *Pre-treatment characteristics of treatment groups*

The pre-treatment demographic characteristics of the therapy and wait list control groups are presented in Table 22. As can be seen from the Table, the two groups were similar on initial variables.

Two participants from the therapy group were not available for the post-treatment assessment battery. These two participants completed only 1 session of cognitive-behaviour therapy. Their pre-treatment BDI-II scores were 24 and 28, which were comparable with mean therapy group pre-treatment BDI-II scores ($M = 26.35, SD = 8.36$).

Table 22

Pre-treatment Demographic Characteristics of the Depressed Sample (N = 41)

Variable	Therapy Group (n = 23)		Control Group (n = 18)	
	N (%)	M (SD)	N (%)	M (SD)
Age	-	41.57 (10.03)	-	43.44 (12.04)
Gender				
Male	13 (57)		8 (44)	
Female	10 (43)		10 (56)	
No. CBT Sessions (Prior to pre-treatment measurement)				
1	9 (39)		-	
2	11 (48)		-	
3	3 (13)		-	
Current Anti-Depressant Meds				
Not on Medication	7 (30)		6 (33)	
On Medication	16 (70)		12 (66)	

6.3.3 Descriptive statistics of the CB-PM

The descriptive statistics and intercorrelations of pre-treatment CB-PM total and subscale scores are presented in Table 23. Comparing these descriptive statistics of the CB-PM with the undergraduate student population of the first study, the depressed population scored approximately 7 points lower on the CB-PM total score, compared with the undergraduate student population. The intercorrelations of the total and subscale Score of the CB-PM were similar between the two studies.

Table 23

Pre-treatment Means, Standard Deviations, Range, and Intercorrelations of the Total and Subscale Scores of the CB-PM (N = 41)

	CB-PM		
	Total	Connections	Identify
Mean	38.34	20.81	17.54
SD	10.46	7.34	4.40
Min	20	8	9
Max	54	32	26
<i>Intercorrelations</i>			
Total Score	1.00		
Connections (Factor 1)	.94**	1.00	
Identify (Factor 2)	.81**	.56**	1.00

Note: ** $p < .01$ (2-tailed).

6.3.4 Reliability of the CB-PM

A reliability analysis was conducted including alpha item-total statistics to determine the internal reliability of the CB-PM for this depressed sample (see Table 24). Inspection of the table reveals that the Cronbach's alpha coefficients for the total score and the Connections factor were moderate to high (.847 and .830, respectively), suggesting high internal consistency of the total score and Connections factor. Table 24 also reveals that the Cronbach's alpha coefficient for the Identify factor was .675, representing moderate internal reliability. The Identify factor was the only subscale for which removal of an item would increase internal reliability (item 12). Because the removal of item 12 would improve the Cronbach's alpha coefficient of the 'Identify' factor by only .01, the item was retained.

Table 24

Reliability Analysis of the CB-PM – Scale Alpha Statistics

Item	Scale Mean if item deleted	Scale Variance if item deleted	Corrected item total correlation	Alpha if item deleted
<u>Overall</u>				
1	34.98	93.17	.64	.828
2	35.39	92.09	.41	.845
3	34.49	98.10	.40	.843
4	34.63	98.93	.46	.840
5	34.63	90.98	.59	.829
6	36.02	90.37	.64	.826
7	34.88	92.11	.52	.835
8	35.95	89.14	.64	.825
9	34.88	93.56	.47	.838
10	35.73	89.75	.56	.832
11	35.49	91.65	.53	.834
12	34.68	98.87	.33	.847
Alpha = .847				
<u>Connections</u>				
<u>Factor</u>				
5	17.10	41.44	.56	.809
6	18.49	39.30	.71	.785
7	17.34	40.18	.60	.803
8	18.41	37.64	.77	.774
9	17.34	43.93	.39	.835
10	18.20	40.56	.52	.816
11	17.95	42.04	.49	.821
Alpha = .830				
<u>Identify Factor</u>				
1	14.17	12.49	.64	.536
2	14.59	10.74	.46	.619
3	13.68	13.62	.46	.611
4	13.83	15.34	.36	.652
12	13.88	14.76	.28	.685
Alpha = .675				

The test-retest correlation for the 18 control group participants over the 3-month period was .91 ($p < .001$) for the CB-PM Total, .88 ($p < .001$) for the CB-PM Connections Subscale, and was .59 ($p < .05$) for the CB-PM Identify Subscale.

6.3.5 Effectiveness of cognitive-behaviour therapy for depression in the current study

Comparisons between the cognitive-behaviour therapy and wait list control groups on the Beck Depression Inventory-II, Automatic Thoughts Questionnaire, and Sheehan Disability Scale measures at pre- and post-treatment are displayed in Table 25. As can be seen from the Table, t-tests between therapy and control groups revealed there were no significant mean differences between any of these variables at pre-treatment.

A one-way between-groups (therapy vs. control) analysis of covariance was conducted for each of the five measures displayed in Table 25, with post-treatment scores as dependent variable, and pre-treatment scores used as covariates. With the exception of the Sheehan Disability Scale (Family/Home), after adjusting for pre-treatment scores, mean post-treatment scores for the measures were significantly lower in the therapy group, when compared with the control group. In terms of the clinical significance of BDI-II findings, participants in the therapy group went from being in the moderate range of depression ($M = 26.35$, $SD = 8.36$) to the mild range of depression ($M = 18.26$, $SD = 8.73$), indicating a clinically significant improvement in depressive symptoms, according to Steer, Ball, Ranieri, and Beck (1999).

These results suggest that cognitive-behaviour therapy in the current study was effective in alleviating depressive symptomatology and negative ideation, and improving quality of life.

Table 25

Comparisons Between Therapy and Control Groups on the BDI-II, ATQ, and SDS (Work), SDS (Social/Leisure), and SDS (Family/Home) at Pre- and Post-Treatment

	Therapy Group		Control Group		df	Between Groups		η^2
	Mean	SD	Mean	SD		<i>t</i> or <i>F</i>	<i>p</i>	
BDI-II								
Pre-treatment	26.35	8.36	27.33	9.61	39	<i>t</i> = .35	.73	.00
Post-treatment	18.26	8.73	24.67	6.42	38	<i>F</i> = 7.94 ^a	.008**	.17
ATQ								
Pre-treatment	88.91	36.18	99.47	28.95	38	<i>t</i> = .99	.33	.03
Post-treatment	71.64	36.08	96.88	25.52	35	<i>F</i> = 4.36 ^a	.04*	.11
SDS (Work)								
Pre-treatment	6.87	2.65	6.82	1.98	38	<i>t</i> = -.06	.96	.00
Post-treatment	3.91	2.81	6.06	1.39	37	<i>F</i> = 8.30 ^a	.007**	.18
SDS (Social/Leisure)								
Pre-treatment	6.17	2.85	5.88	2.50	38	<i>t</i> = -.34	.74	.00
Post-treatment	3.48	2.43	5.88	1.98	37	<i>F</i> = 11.61 ^a	.002**	.24
SDS (Family/Home)								
Pre-treatment	5.61	2.89	6.06	2.86	38	<i>t</i> = .49	.63	.01
Post-treatment	4.52	2.70	6.12	2.67	37	<i>F</i> = 3.12 ^a	.086	.08

Notes: * $p < .05$ ** $p < .01$ (2-tailed).

^a ANCOVA with pre-treatment scores as a covariate.

6.3.6 Test of hypotheses

1. The CB-PM will demonstrate convergent validity in a depressed outpatient sample

Hypothesis 1.1 There will be a negative correlation between the CB-PM and the TAS-20.

The pre-treatment means and standard deviations of the TAS-20 total and subscale scores, along with their correlations with the CB-PM total and subscale scores, are presented in Table 26. The Table reports significant negative correlations (low to moderate in size) between the TAS-20 total, ‘difficulty identifying feelings’, and ‘externally-oriented thinking’ subscales, and CB-PM total and Connections subscale, while the CB-PM ‘Identify’ subscale did not significantly correlate with any of the TAS-20 total or subscales. Overall, the hypothesis that there will be a negative correlation between the CB-PM and the TAS-20, was supported.

Table 26

Pre-treatment Means and Standard Deviations of the TAS-20 Total and Subscale Scores, and their Correlations with the CB-PM Total and Subscale Scores (N = 41)

	Mean	SD	r (with CB-PM scores)		
			Total	Connections	Identify
TAS-20 Total Score	58.50	16.05	-.37*	-.40*	-.23
Subscales					
Difficulty Identifying Feelings	20.24	7.65	-.39*	-.44**	-.19
Difficulty Describing Feelings	15.34	5.26	-.25	-.27	-.15
Externally-Oriented Thinking	22.92	4.84	-.36*	-.32*	-.32

Note: * $p < .05$ ** $p < .01$ (2-tailed).

Hypothesis 1.2 There will be a positive correlation between the CB-PM and the PMS.

The pre-treatment means and standard deviations of the PMS Subscale and Total Scores, along with their correlations with the CB-PM total and subscale scores, are displayed in Table 27. As can be seen from the Table, there were significant, positive and low correlations between the ‘Interest in Meaning and Motivation of Own and Others’ Behaviour’ subscale of the PMS, and the CB-PM total ($r = .35, p < .05$) and Identify subscale ($r = .43, p < .001$). There were no other significant correlations between the PMS total or subscales and CB-PM total and subscales.

Table 27

Pre-Treatment Means and Standard Deviations of the PMS Total and Subscale Scores, and their Correlations with the CB-PM Total and Subscale Scores (N = 41)

	Mean	SD	<i>r</i> (with CB-PM Scores)		
			Total	Connections	Identify
Total Score	127.16	12.74	.21	.21	.16
Subscales					
Belief in the Benefit of					
Discussing One’s Problems	20.54	3.61	.12	.11	.10
Access to Feelings	10.92	1.82	.16	.25	-.03
Willingness to Discuss					
Problems with Others	7.78	1.92	.02	.11	-.13
Interest in Meaning and Motivation					
of Own and Others’ Behaviour	8.89	1.65	.35*	.25	.43**
Openness to Change	11.43	1.98	-.01	.02	-.06

Note: * $p < .05$ ** $p < .01$ (2-tailed).

Therefore, the hypothesis that there will be a positive correlation between the CB-PM and the PMS, was not supported. However, the significant positive correlation between the CB-PM and ‘Interest in Meaning and Motivation of Own and

Others' Behaviour' Subscale of the PMS provides some support for the convergent validity of the CB-PM.

Hypothesis 1.3 Individuals who keep a diary will have higher mean CB-PM scores than individuals who do not keep a diary.

The pre-treatment means and standard deviations of the CB-PM, TAS-20, and PMS for those who did and did not keep a diary, are displayed in Table 28. As can be seen from the Table, there were no significant mean differences on any of the measures between those who did and did not keep a diary. Therefore, the hypothesis that individuals who keep a diary will have higher mean CB-PM scores than individuals who do not keep a diary, was not supported.

Table 28

Pre-Treatment Means and Standard Deviations of the CB-PM, TAS-20, and PMS for those who Did and Did Not Keep a Diary

	<u>Did Not Keep Diary</u> (n = 29)		<u>Kept Diary</u> (n = 12)		<u>Between Groups</u>		
	Mean	SD	Mean	SD	df	t	p
CB-PM Total	37.41	10.97	40.58	9.16	39	-.88	.38
CB-PM Subscales							
Connections	20.07	7.58	22.58	6.71	39	-1.00	.33
Identify	17.34	4.82	18.00	3.30	39	-.43	.67
TAS-20 Total	59.78	17.19	55.36	13.00	36	.77	.50
TAS-20 Subscales							
Diff. Id. Feelings	20.96	7.96	18.45	6.85	36	.91	.37
Diff. Desc. Feelings	15.70	5.57	14.45	4.50	36	.66	.51
Ext. Orient. Thinking	23.11	5.26	22.45	3.80	36	.38	.71
PMS Total	126.44	12.96	128.67	12.67	35	-.49	.63

2. *The CB-PM will predict positive outcome in cognitive-behaviour therapy for depression*

Hypothesis 2.1 For the therapy group, higher pre-treatment CB-PM scores will be associated with decreased post-treatment BDI-II scores, after controlling for pre-treatment BDI-II scores

Partial correlations between pre-treatment therapy group CB-PM scores and post-treatment outcome measures, after controlling for pre-treatment outcome measures, are displayed in Table 29. As can be seen from the Table, there were significant negative correlations between the pre-treatment CB-PM total and Connections subscale, and post-treatment BDI-II and ATQ scores. There was also a significant negative correlation between the pre-treatment CB-PM Total and post-treatment SDS (Social/Leisure).

Table 29

Partial Correlations Between Pre-Treatment Therapy Group CB-PM Scores and Post-Treatment Outcome Measures, after Controlling for Pre-Treatment Outcome Measures

Outcome Measures	<i>r</i> (with Pre-treatment CB-PM Scores)		
	Total	Connections	Identify
BDI-II	-.49*	-.54**	-.23
ATQ	-.47*	-.52*	-.09
SDS (Work)	-.23	-.23	-.16
SDS (Social/Leisure)	-.43*	-.42	-.28
SDS (Family/Home)	-.19	-.30	.04

Note: * $p < .05$ ** $p < .01$ (2-tailed)

First hierarchical multiple regression analysis: Post-treatment BDI-II was entered as the dependent variable, and pre-treatment BDI-II entered as an independent variable at step one. Pre-treatment CB-PM was entered as an independent variable at step two. Results of this analysis indicated that at step two of the regression model, $R^2_{\text{change}} = .157$ ($p < .05$), demonstrating that pre-treatment CB-PM explained 15.7% of the variance in post-therapy BDI-II, after controlling for pre-treatment BDI-II.

Second hierarchical multiple regression analysis: Post-treatment BDI-II was entered as the dependent variable, and pre-treatment BDI-II and ATQ entered as independent variables at step one. Post-treatment ATQ was entered as an independent variable at step two, and pre-treatment CB-PM entered at step three. Results of this analysis indicated that at step three of the regression model, $R^2_{\text{change}} = .016$, $p > .05$, demonstrating that pre-treatment CB-PM explained a non-significant 1.6% of the variance in post-treatment BDI-II, after controlling for pre-treatment BDI-II and ATQ, and post-treatment ATQ.

Therefore, mediation has been demonstrated because:

- $R^2_{\text{change}} = .157$ from the first regression was significant, and
- There was a substantial difference between the variance explained by CB-PM without controlling for post-treatment ATQ ($R^2_{\text{change}} = .157$) and the variance explained by CB-PM after controlling for post-treatment ATQ ($R^2_{\text{change}} = .016$).

In addition, full mediation was demonstrated because the variance explained by pre-treatment CB-PM after controlling for post-treatment ATQ ($R^2_{\text{change}} = .016$) was non-significant.

In summary, the hypothesis that for the therapy group, the relationship between pre-treatment CB-PM scores and post-treatment BDI-II scores (after controlling for pre-treatment BDI-II scores) will be mediated by post-treatment ATQ scores (after controlling for pre-treatment ATQ scores), was supported.

Hypothesis 2.3 Higher pre-treatment CB-PM scores will be associated with higher Working Alliance Inventory (WAI) scores.

The WAI total and subscale post-treatment descriptive statistics for the therapy group, and their correlations with pre-treatment CB-PM total and subscale scores, are displayed in Table 30. There were no significant correlations between any of the WAI total or subscale scores and any of the CB-PM total or subscale scores. Therefore, the hypothesis that higher pre-treatment CB-PM scores will be associated with higher Working Alliance Inventory (WAI) scores, was not supported.

Table 30

WAI Total and Subscale Post-Treatment Descriptive Statistics for the Therapy Group, and their Correlations with Pre-Treatment CB-PM Total and Subscale Scores

	Mean	SD	<i>r</i> (with CB-PM scores)		
			Total	Connections	Identify
WAI Total Score	62.6	11.32	.35	.33	.27
Subscales					
Task	21.3	4.32	.31	.26	.28
Bond	20.4	3.91	.22	.24	.11
Goal	20.9	4.27	.41	.38	.32

3. *The CB-PM will demonstrate sensitivity to change over the course of cognitive-behaviour therapy*

Hypothesis 3.1 Mean post-treatment therapy group CB-PM scores will be higher than mean post-treatment control group CB-PM scores, after controlling for pre-treatment CB-PM scores.

Comparisons between therapy and control groups on the CB-PM, TAS-20, and PMS at pre- and post-treatment, are presented in Table 31. As can be seen from the Table, therapy and control groups did not differ significantly on pre-treatment mean CB-PM, TAS-20, or PMS scores.

One-way between-groups (therapy vs. control) analyses of covariance were conducted for post-treatment CB-PM, TAS-20, and PMS scores, and results of these are also displayed in Table 31. These ANCOVAS used post-treatment measures as dependent variables and their respective pre-treatment scores used as covariates. After adjusting for pre-treatment CB-PM scores, mean post-treatment CB-PM scores

were significantly higher in the therapy group, when compared with the control group. These results are illustrated graphically in Figure 23. As can be seen from Table 31, no such post-treatment differences were evident between the therapy and control groups for TAS-20 and PMS scores.

These results indicate that cognitive-behaviour therapy was effective at increasing client's psychological mindedness when assessed by the CB-PM, but not when measured by the PMS or TAS-20. Therefore, the hypothesis that mean post-treatment therapy group CB-PM scores will be higher than mean post-treatment control group CB-PM scores, after controlling for pre-treatment CB-PM scores, was supported.

Table 31

Comparisons between Therapy and Control Groups on the CB-PM, TAS-20, and PMS at Pre- and Post-Treatment

	Therapy Group		Control Group		df	Between Groups		
	Mean	SD	Mean	SD		<i>t</i> or <i>F</i>	<i>p</i>	η^2
CB-PM								
Pre-treatment	38.87	10.48	37.67	10.70	39	<i>t</i> = -.36	.72	.003
Post-treatment	47.61	9.31	41.22	11.53	38	<i>F</i> = 6.08 ^a	.02*	.14
TAS-20								
Pre-treatment	56.43	11.89	61.67	21.00	36	<i>t</i> = .98	.33	.03
Post-treatment	53.86	8.83	56.86	14.52	32	<i>F</i> = .43 ^a	.52	.01
PMS								
Pre-treatment	130.26	11.76	122.07	13.06	35	<i>t</i> = -1.97	.06	.10
Post-treatment	125.65	12.32	123.07	14.26	34	<i>F</i> = 1.45 ^a	.24	.04

Notes: * *p* < .05 (2-tailed)

^a ANCOVA with pre-treatment scores as a covariate.

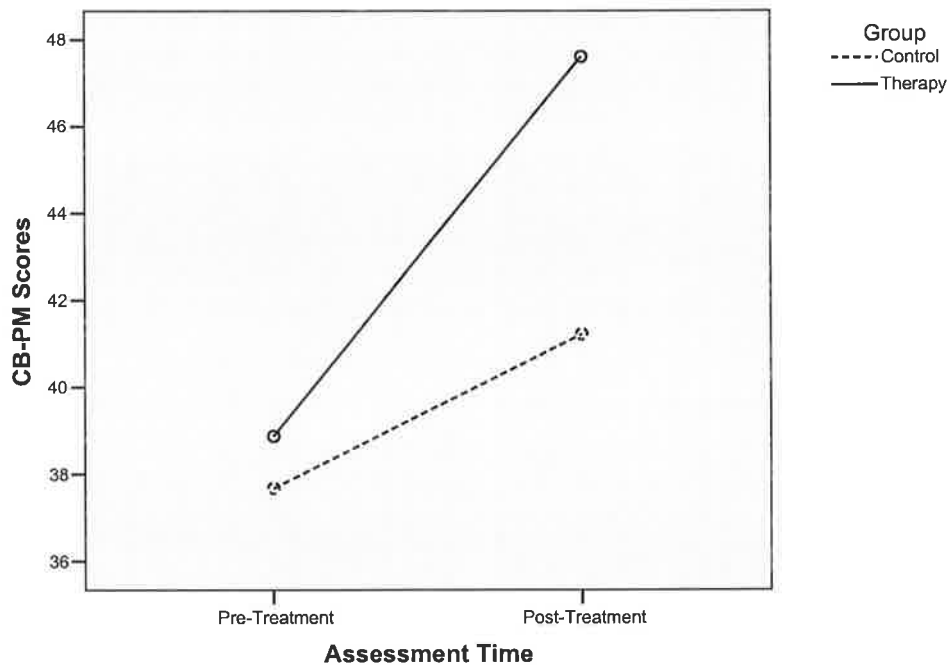


Figure 23. Differences between the therapy and control groups in the change in CB-PM scores from pre- to post-treatment.

Hypothesis 3.2 For the therapy group, a higher number of therapy sessions attended will be associated with higher post-treatment CB-PM scores, after controlling for pre-treatment CB-PM scores.

The mean number of therapy sessions that participants in the therapy group attended during the 3-month intervention period was 10.32 ($SD = 1.56$, ranging from 7 to 12 sessions). There was no significant correlation between the number of therapy sessions attended and post-treatment CB-PM total scores ($r = .02$, $p = .942$), after controlling for pre-treatment CB-PM scores. In addition, there was no significant

correlation between the number of therapy sessions attended and post-treatment BDI-II scores ($r = .04$, $p = .872$), after controlling for pre-treatment BDI-II scores. Therefore, the hypothesis that a higher number of therapy session attended will be associated with higher post-treatment CB-PM scores, after controlling for pre-treatment CB-PM scores, was not supported.

Hypothesis 3.3 For the therapy group, larger CB-PM change scores from pre- to post-treatment will be associated with larger decreases in BDI-II scores from pre- to post-treatment.

Partial correlations were used to explore the relationship between larger CB-PM change scores from pre- to post-therapy and larger decreases in BDI-II scores from pre- to post-treatment. Pre-treatment CB-PM and BDI-II scores were entered as covariates, while post-therapy CB-PM and BDI-II scores were entered as correlation variables, effectively performing a correlation between CB-PM and BDI-II change scores. There was no significant partial correlation between post-therapy CB-PM and BDI-II scores ($r = .02$, $p > .05$), after controlling for pre-treatment CB-PM and BDI-II scores. Therefore, the hypothesis that for the therapy group, larger CB-PM change scores from pre- to post-treatment will be associated with larger decreases in BDI-II scores from pre- to post-treatment, was not supported.

6.3.7 Additional exploratory analyses

A hierarchical multiple regression analysis was performed on the therapy group to determine (1) the variance explained in post-therapy BDI-II by a number of

pre-therapy predictor variables (such as demographic variables, TAS-20 and PMS), and (2) whether the relationship between pre-therapy CB-PM and post-therapy BDI-II (after controlling for pre-therapy BDI-II) still holds after controlling for these pre-therapy predictor variables.

For the hierarchical regression analysis, post-therapy BDI-II was entered as the dependent variable, with pre-therapy BDI-II entered as an independent variable at step one. Demographic variables (age, gender, diary keeping, and medication status) were entered at step two, TAS-20 entered at step three, PMS entered at step four, and CB-PM entered at step five. Results of the hierarchical multiple regression analysis are displayed in Table 32.

Table 32

Hierarchical Multiple Regression Analysis with Post-Treatment BDI-II Scores as Dependent Variable

Model	0 order corr.	R ² _{change}	F _{change}	df	Sig. F _{change}
1	.58**	.340	10.81	21	.004**
2	.25	.099	.75	17	.57
3	.35	.063	2.04	16	.17
4	-.22	.000	.005	15	.95
5	-.51**	.14	5.49	14	.034*

Notes: * $p < .05$ ** $p < .01$ (2-tailed)

Regression IV pre-therapy predictors:

Model 1: BDI-II

Model 2: BDI-II, demographic variables

Model 3: BDI-II, demographic variables, TAS-20

Model 4: BDI-II, demographic variables, TAS-20, PMS

Model 5: BDI-II, demographic variables, TAS-20, PMS, CB-PM

Apart from Model 1 (with pre-therapy BDI-II as the sole predictor), Model 5 (which included pre-therapy CB-PM as the additional predictor after controlling for all other predictors in the regression analysis), was the only model that reached statistical significance ($R^2_{\text{change}} = .14, p < .05$). This result indicates that after controlling for pre-therapy BDI-II, demographic variables, TAS-20, and PMS, 14% of the variance in post-therapy BDI-II scores was predicted by pre-therapy CB-PM scores. These results provide further evidence for the independent predictive validity of the CB-PM, and the failure of demographic variables, TAS-20, and the PMS to predict depression severity outcome.

6.4 DISCUSSION

The aims of the third study were threefold: (1) to further investigate the convergent validity of the CB-PM in a depressed population, (2) to test the ability of the CB-PM to predict positive outcome in cognitive-behaviour therapy for depression, and (3) to test the sensitivity to change of the CB-PM. Findings relating to each of these three aims are discussed below.

6.4.1 *The convergent validity of the CB-PM in a depressed population*

As was hypothesised, the current study demonstrated a significant negative correlation between the pre-treatment CB-PM and TAS-20. As a test of convergent validity, the CB-PM total and Connections subscale correlated significantly and negatively with the TAS-20 total, ‘difficulty identifying feelings’ and ‘externally-

oriented thinking' subscales. The negative correlation with psychological mindedness was predicted because alexithymia is associated with a deficit in identification and description of emotion. This identification and description of emotion is an important aspect of psychological mindedness, as the ability to see connections between thoughts, emotions, and behaviours, requires the individual to first identify these components. These findings provide further evidence for the convergent validity of the CB-PM because, in contrast to measures of psychological mindedness, the TAS-20 is an instrument that has been validated in a large number of empirical studies (Bagby, Taylor, et al., 1994; Parker et al., 1998; Tull et al., 2005). The findings are also important because they now demonstrate that the CB-PM is negatively related to alexithymia in both non-clinical (undergraduate psychology students from the first study) and clinical populations.

The hypothesis that there will be a positive correlation between the CB-PM and PMS, was not supported. This finding provides less support for the convergent validity of the CB-PM. However, there are very important differences between these two measures of psychological mindedness, including (1) differences in the definition of psychological mindedness utilised, (2) differences in theoretical orientations, i.e., cognitive-behavioural vs. psychodynamic, and (3) differences in the mode of measurement utilised, i.e., ability-based vs. self-report measurement. In contrast to this non-significant finding, the first study with an undergraduate student population did find a small, significant and positive correlation between the CB-PM and the PMS. In conclusion, while a non-significant correlation between the CB-PM and PMS was not as predicted, differences between the two measures as outlined above make this finding somewhat difficult to interpret.

The hypothesis that individuals who keep a diary will have higher CB-PM scores than individuals who do not keep a diary, was not supported. There were no significant differences between diary keepers and non-diary keepers on the CB-PM, TAS-20, and the PMS in the current study. This finding is at odds with the first study, where diary keepers were found to be significantly more psychologically minded than non-diary keepers, as measured by the CB-PM. These results provide less support for the convergent validity of the CB-PM in this clinical population.

6.4.2 The predictive validity of the CB-PM

The current investigation found that increased pre-treatment psychological mindedness scores (as measured by the CB-PM) were associated with better post-treatment outcomes after cognitive-behaviour therapy for depression. In particular, pre-treatment CB-PM scores accounted for 24% of the variance in post-treatment depression severity (as measured by the BDI-II), after controlling for pre-treatment depression severity. In addition, pre-therapy CB-PM scores also accounted for 22.1% of the variance in post-therapy negative ideation (as measured by the ATQ), after controlling for pre-therapy negative ideation. Higher pre-treatment CB-PM scores were also associated with higher post-treatment social/leisure quality of life (as measured by the SDS Social/Leisure item), after controlling pre-therapy social/leisure quality of life. These results provide support for the CB-PM as a predictor of positive outcome in cognitive-behaviour therapy for depression.

The current study also found that negative ideation fully mediated the relationship between pre-treatment psychological mindedness and post-treatment

depression severity. This finding supports the theoretical basis of the CB-PM, demonstrating that the ability to identify one's thoughts, emotions, and behaviours, and see connections between them, is beneficial for clients to reduce negative ideation, in turn reducing depression severity. A key theoretical component of cognitive-behaviour therapy is that thoughts, emotions, and behaviours are all interconnected aspects of experience, and that a change in one can lead to a change in one or more of the others. It was suggested that an individual who can identify their own thoughts, emotions, and behaviours, and see connections between them (i.e., demonstrate psychological mindedness), will be better able to (a) identify negative automatic thoughts associated with depressed mood, and (b) work with the therapist to challenge these thoughts and replace them with more adaptive ways of thinking. This possibility was supported by the finding that negative ideation fully mediates the relationship between pre-treatment psychological mindedness and post-treatment depression severity.

The hypothesis that higher pre-treatment psychological mindedness will be associated with a stronger therapeutic alliance (Bordin, 1979), was not supported. While Rogers' (1957) client-centred therapy places an emphasis on the contributions a therapist can make to the therapeutic alliance, the current study predicted that a client's pre-treatment psychological mindedness would be related to increased therapeutic alliance. It was suggested that psychologically minded clients are better able to see that their thinking is related to how they feel, which is congruent with therapists' cognitive-behavioural perspective. It was expected that this congruence in perspective might result in an improved therapeutic alliance. However, the current study did not support this hypothesis. It seems likely that therapist characteristics,

such as empathy, unconditional positive regard, and congruence (Kirschenbaum & Jourdan, 2005), may play a more important role than clients' level of psychological mindedness in determining therapeutic alliance.

6.4.3 Sensitivity to change of the CB-PM over the course of cognitive-behaviour therapy

The hypothesis that post-treatment psychological mindedness (as measured by the CB-PM) will be higher in the therapy group than in the control group, after controlling for pre-treatment psychological mindedness, was supported. It was suggested that clients who receive cognitive-behaviour therapy gain practice and learn skills that improve their ability to identify and see connections between how they think, feel, and behave (i.e., demonstrate increased psychological mindedness). This suggestion is also consistent with the emphasis that the cognitive-behavioural therapist places on client psychoeducation and socialisation to the cognitive model (Kirk, 1989; Wells, 1997). Therefore, the current finding that cognitive-behaviour therapy increased participants' psychological mindedness, as measured by the CB-PM, provides support for the sensitivity to change and validity of this instrument.

As discussed earlier, most researchers tend to discuss psychological mindedness as a stable trait that does not change, even after psychotherapy. While there has been little research conducted to support this belief, both Zimet (1995) and McCallum and Piper (1990) both found psychological mindedness (as measured by the Psychological Mindedness Assessment Procedure) to remain stable following psychodynamic therapy. However, difficulties arise in generalising these findings to

measures of psychological mindedness and psychotherapies that are of a different theoretical orientation. For example, it is possible that the tasks and processes of cognitive-behaviour therapy are more likely to improve therapy-related abilities like psychological mindedness, because cognitive-behaviour therapy includes a focus on active engagement from the client, including: (a) psychoeducation, (b) collaborative empiricism, (c) homework, including self-monitoring for automatic thoughts and related emotions, and (d) active participation in the therapy process (Beck et al., 1979). Therefore, because of its collaborative nature and active engagement from the client, cognitive-behaviour therapy may result in a greater change in psychological mindedness than other psychotherapies.

A second factor that might explain the finding that psychological mindedness increased over the course of cognitive-behaviour therapy, is the mode of measurement used for the CB-PM. The CB-PM utilised an ability-based mode of measurement including scoring criteria to measure participants' ability to identify and see connections between thoughts, emotions, and behaviours. It might be the case that ability-based measurement is more sensitive to changes in psychological mindedness, compared with participants' ability to notice these changes in themselves. Hence, the current finding that psychological mindedness increases over the course of cognitive-behaviour therapy probably reflects both the explicit emphasis on clients learning psychological skills in cognitive-behaviour therapy, and the use of an ability-based measurement of psychological mindedness.

In summary, the current finding that psychological mindedness improved over the course of cognitive-behaviour therapy may differ from previous studies due to

differences in (a) the nature and process of cognitive-behaviour therapy itself, as opposed to psychodynamic therapy, (b) ability-based versus self-report measurement, and (c) differences in the theory and definitions of psychological mindedness. The current study provides some evidence that psychological mindedness is an ability that can be developed and improved over the course of cognitive-behaviour therapy.

The hypothesis that a higher number of therapy sessions attended will be associated with higher post-treatment CB-PM scores, after controlling for pre-treatment CB-PM scores, was not supported. It was expected that participants who were exposed to more cognitive-behaviour therapy would demonstrate increased post-treatment psychological mindedness, but this was not the case. Therefore, the current study does not support a linear dose-response relationship between exposure to cognitive-behaviour therapy and increased psychological mindedness.

The hypothesis that for the therapy group, larger CB-PM change scores from pre- to post-treatment will be associated with larger decreases in BDI-II scores from pre- to post-treatment, was not supported. Therefore, while cognitive-behaviour therapy was found to increase the therapy group's level of psychological mindedness, this improvement was not related to decreased depression severity. One interpretation is that individuals who first come to therapy high in psychological mindedness tend to benefit more from therapy, but any additional increase in psychological mindedness gained throughout the course of cognitive-behaviour therapy does not provide any additional beneficial effects.

However, another point to be kept in mind is that the course of cognitive-behaviour therapy in the current study was relatively short, with a three-month duration and a mean of 10.32 sessions attended ($SD = 1.56$, ranging from 7 to 12 sessions). The improvement in psychological mindedness for some clients may have resulted in decreased depression severity at a later stage of treatment, or even at a 6 or 12 month follow-up. This possibility is certainly plausible as psychological mindedness may need to be consolidated and put into practice for a period before affecting depression levels. This would suggest that an emphasis should be placed on the therapist developing clients' psychological mindedness in the *early stages* of cognitive-behaviour therapy. If this is done, the client might then be in a better position to benefit from the tasks involved in cognitive-behaviour therapy.

6.4.4 Limitations of the third study

The factor analysis from the first study extracted the subscales of the CB-PM utilised in the current clinical study. Therefore, one limitation of this study is that the subscales of the CB-PM are based on a factor analysis using an undergraduate student population. It is possible that a factor structure derived from a depressed population may demonstrate a different pattern of results. There is some evidence in the current study of this possibility, as the Identify factor of the CB-PM yielded a Cronbach's alpha coefficient of .68, suggesting only moderate internal reliability of the subscale. However, the total and Connections subscales yielded Cronbach's alpha coefficients of .85 and .83, respectively, suggesting high internal reliability. The sample size in the current study was not large enough to allow a factor analysis on this depressed

population to determine any possible differences between CB-PM factor structures of clinical and non-clinical different populations.

Another limitation of the current study is that in the therapy group, pre-treatment measures were not administered prior to receiving cognitive-behaviour therapy. Due to practical and organisational limitations of the mental health services involved in the study, pre-treatment measures were taken after either the first ($n = 9$), second ($n = 11$), or third ($n = 3$) therapy sessions. This methodological limitation could introduce measurement bias, such that (a) the study does not include a 'true' pre-treatment measure of psychological mindedness that is unaffected by the first one to three sessions of cognitive-behaviour therapy, (b) psychological mindedness may have increased in the first few sessions of treatment thus minimising the current study's measurement of improvement in psychological mindedness from pre- to post-treatment, and (c) depressive symptoms and severity may have improved in the first few sessions of treatment, minimising the measurement of change in depression severity. Despite these limitations that tended to work against rejecting the null hypotheses, the current study still found psychological mindedness to (a) predict outcome, and (b) improve over the course of cognitive-behaviour therapy. Therefore, the timing of pre-treatment measurement is a limitation of the study, but one that did not appear strong enough to adversely affect the above supported predictions.

Another aspect of this study is the clinical heterogeneity of the population sampled. The depression inclusion criterion comprised of a diagnosis of 'Major Depressive Episode – Current' according to the Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1998) and a BDI-II score of greater than 13,

indicating at least mild depression severity. However, participants were not screened for other psychiatric diagnoses, apart from the 'Psychotic Disorders' section of the MINI. Therefore, some participants in the current study were likely to have other co-morbidities, such as anxiety disorders that were not measured. It is possible that the pattern of results may be somewhat different for individuals with co-morbid disorders in addition to depression. However, the inclusion of participants with comorbidities improves the ecological validity of the study. The co-morbidity of depression with at least one other psychiatric disorder is high for outpatients presenting at a mental health service (Goodwin, 2002). Therefore, this apparent limitation to some degree increases the generalisability of the current findings to individuals with presenting depression at outpatient mental health services.

An additional limitation of this study is the naturalistic nature of the cognitive-behaviour therapy provided to participants. Therapists in this study did not use manualised or uniform cognitive-behavioural treatment methods. Rather, they responded in the affirmative to the question asked by the researcher, "Do you currently use a predominantly cognitive-behaviour therapy approach to the treatment of your clients?" In addition, therapy sessions were not recorded and scored for adherence to the cognitive-behavioural model. It is likely that therapists differed in the extent to which they strictly followed a cognitive-behavioural treatment approach. Therefore, a limitation of this study is that the findings relating to post-treatment measurement may not be entirely attributable to a strictly cognitive-behaviour therapy approach and that elements of other therapy approaches may have influenced results. As with the discussion on the heterogeneity of participants in the study, it can be argued that this increases the ecological validity of findings, with more

generalisability to how cognitive-behaviour therapy is actually conducted in outpatient mental health settings.

A further limitation of the study is that there was no long-term followup measurement of psychological mindedness or depression severity. Hence, it is not known whether psychological mindedness predicts longer-term maintenance of treatment gains, or whether increased psychological mindedness following therapy might decrease, remain stable, or increase after a time away from cognitive-behaviour therapy. Therefore, the longer-term relationship between psychological mindedness and improvement in depressive symptoms following a course of cognitive-behaviour therapy is not known and requires further research.

6.4.5 Summary of the third study

The findings of this third study provide evidence of the validity and usefulness of the CB-PM in a clinical population. Firstly, it has been demonstrated that higher levels of psychological mindedness (measured by the CB-PM) before cognitive-behavioural treatment predicts lower depression scores after treatment. In addition, it has been shown that participants demonstrated increased psychological mindedness from pre- to post-treatment, suggesting that the measure is sensitive to change. In contrast, TAS-20 scores did not decrease, and PMS scores did not increase following cognitive-behaviour therapy. In addition neither of these two measures predicted outcome. Finally, while the CB-PM did not significantly correlate with the PMS, there was a significant negative correlation between the TAS-20 and the CB-PM,

providing additional support for the convergent validity of the CB-PM in this clinical population.

CHAPTER SEVEN

Conclusions

7.1 Introduction

The goal of the current research was to conduct a series of empirical investigations designed to validate a new cognitive-behavioural measure of psychological mindedness in order to provide a substantial contribution to knowledge in this field of research. Results of the three empirical investigations will be discussed and their strengths and limitations outlined in the following sections. The potential clinical utility of the CB-PM as a tool in therapeutic practice and areas for future research will also be described.

7.2 The psychometric properties of the CB-PM in a non-clinical sample

The purpose of the first study was to determine the psychometric properties and validate the CB-PM in a non-clinical, undergraduate student population. A factor analysis of the CB-PM revealed a two-factor structure, labelled 'Ability to identify thoughts, emotions, and behaviours' and 'Ability to see connections between thoughts, emotions, and behaviours'. The CB-PM total score demonstrated high internal reliability, while the two factors showed moderate to high internal reliability and both correlated highly with the overall CB-PM total score. The CB-PM also demonstrated convergent validity with theoretically related constructs such as alexithymia (measured by the TAS-20), and a self-report measure of psychological

mindedness derived from a psychodynamic framework (the PMS). In addition, participants who kept a diary about their thoughts and feelings scored higher on the CB-PM than those who did not. In summary, these results provided some initial validation to this new cognitive-behavioural measure of psychological mindedness.

7.3 Validating the CB-PM against cognitive-behavioural, ability-based measures

Two limitations of the first study were that the measures used to validate the CB-PM were (a) self-report, relying on the respondent's self-perception, and (b) either atheoretical or from a psychodynamic framework. The second study addressed these limitations by comparing the CB-PM with three cognitive-behavioural, ability-based measures that were theoretically expected to be associated with psychological mindedness. These measures were (1) the Thought Record Skills Assessment (Neimeyer & Feixas, 1990), designed to measure an individual's competence in completing a thought record consistent with Beck's cognitive-behavioural theory of psychopathology (Beck et al., 1979), (2) the discriminating between thoughts, emotions, behaviours, and bodily sensations scale (D-TEBBS), and (3) the identifying connections between thoughts, emotions, behaviours, and bodily sensations (C-TEBBS). The latter two measures were designed by the author specifically for the purpose of validating the CB-PM.

Taken as a whole, findings of the second study provided further support for the convergent validity of the CB-PM. There were significant, positive correlations between all of the CB-PM total and subscales, and the D-TEBBS, C-TEBBS, and TRSA, with the exception of a non-significant correlation between the CB-PM

Connections subscale, and the D-TEBBS and TRSA. These results were important and extend the findings of the first study, as they demonstrate that the CB-PM is significantly associated with three ability-based, cognitive-behavioural measures theoretically related to psychological mindedness.

7.4 The predictive validity and sensitivity to change of the CB-PM

The third empirical investigation provided further evidence for the validity of the CB-PM in a clinical population. The main finding of this study was that higher levels of psychological mindedness (measured by the CB-PM) before cognitive-behavioural treatment predicts lower depression severity following treatment. In addition, participants demonstrated increased psychological mindedness scores from pre- to post-treatment, suggesting that (a) cognitive-behaviour therapy improves psychological mindedness, and (b) the CB-PM is sensitive to this change. In contrast, neither the TAS-20 decreased, nor the PMS increased as a result of cognitive-behaviour therapy, and neither of these two measures predicted outcome. Finally, while the CB-PM did not significantly correlate with the PMS, there was a negative correlation between the TAS-20 and the CB-PM, providing additional support for the convergent validity of the CB-PM in this clinical population.

7.5 Strengths of the research

While psychological mindedness has received some theoretical and empirical attention in the psychodynamic literature, it has received very little interest in the cognitive-behavioural literature. The current work has developed a cognitive-

behavioural definition of psychological mindedness that combines both Appelbaum (1973) and Baekeland and Lundwall's (1975) definitions of the construct. As such, the current work defined psychological mindedness as "the ability to identify one's thoughts, emotions, and behaviours, and see connections between them". This new definition was not designed to integrate the broad range of conceptualisations, rather it was adopted for the purpose of (a) developing and validating a cognitive-behavioural measure of psychological mindedness (the CB-PM), and (b) applying this measure to the processes and outcomes of cognitive-behaviour therapy. Hence, this is the first empirical investigation into the development and validation of a psychological mindedness measure that adopts a cognitive-behavioural perspective on the construct.

One of the major strengths of this research is that it demonstrated the applicability of psychological mindedness to both the processes and outcomes of cognitive-behaviour therapy. It was suggested that psychologically minded clients are better able to see that the way they think relates to how they feel and behave, and that this ability will be related to better outcomes in cognitive-behaviour therapy. In support of this, the third study found that higher pre-treatment psychological mindedness (as measured by the CB-PM) predicted improved post-treatment depression severity, and that *negative ideation* mediated this relationship. Hence, this finding demonstrated the applicability of the psychological mindedness construct to cognitive change mechanisms as part of cognitive-behaviour therapy.

One issue that has received little attention in the research literature is whether an individual's level of psychological mindedness can increase during the course of

psychotherapy. Most authors tend to discuss psychological mindedness in the research literature as a stable trait that does change, even after psychotherapy. This position is reflected by the majority of researchers measuring psychological mindedness *before*, and not *after* psychotherapy. This research was the first to demonstrate that psychological mindedness can increase as a result of cognitive-behaviour therapy. In addition, this finding provided support for the sensitivity to change of the CB-PM.

7.6 Limitations of the research

As discussed in Chapter 5, the second empirical investigation extended upon the first study by examining how the CB-PM relates to cognitive-behavioural, ability-based measures. A limitation of the first study was that the CB-PM was compared with self-report measures from either atheoretical or psychodynamic frameworks. Because the CB-PM is an ability-based, cognitive-behavioural measure of psychological mindedness, the second study aimed to extend the results of the first study by comparing the measure with other cognitive-behavioural, ability-based measures. The research literature did not contain any such measures to compare with the CB-PM. Therefore, one limitation of the second study was that the D-TEBBS and C-TEBBS were developed by the current author and did not have validity or reliability data from previous empirical studies. Hence, it is somewhat problematic to validate one new instrument (the CB-PM) with other new instruments (the D-TEBBS and C-TEBBS). However, the D-TEBBS and C-TEBBS did demonstrate moderate to high internal reliability and some initial evidence of convergent validity with the CB-PM.

It is worth re-iterating that the third study included a heterogeneous clinical population. While all participants received a current DSM-IV diagnosis of major depressive disorder (American Psychiatric Association, 1994) as confirmed by the Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1998), and a BDI-II score of greater than 13, participants were not screened for other psychiatric diagnoses, apart from the 'Psychotic Disorders' section of the MINI. Therefore, some of the participants in the third study were likely to have other co-morbidities that were not measured. Hence, it is possible that the pattern of results may be somewhat different for individuals with co-morbid disorders in addition to depression. However, while the likely clinical heterogeneity of the participants sampled is a limitation, their inclusion does improve the ecological validity of the third study.

7.7 Clinical utility of the CB-PM

These empirical investigations sought to demonstrate the applicability of a cognitive-behavioural measure of psychological mindedness to the processes and outcomes of cognitive-behaviour therapy. A main finding of this research was that higher pre-treatment psychological mindedness scores predict greater improvement in depression severity at post-treatment. An implication of this finding is that a cognitive-behavioural therapist could gain a measure of a client's psychological mindedness prior to treatment. If the client is found to be low in psychological mindedness, the therapist could either (a) place an increased emphasis on cognitive-behavioural psychoeducation (for example, teaching the client to identify and see connections between thoughts, emotions, and behaviours) to improve client's level of psychological mindedness, and/or (b) focus on more behavioural methods. Therefore,

given that psychological mindedness has been demonstrated to predict outcome, efforts at improving psychological mindedness or using a more behavioural approach might result in better outcomes, and these possibilities require further evaluation.

7.8 Future research

The factor analysis conducted in the first study included an undergraduate student population and revealed two factors which were labelled ‘Ability to see connections between thoughts, emotions, and behaviours’ and ‘Ability to identify thoughts, emotions, and behaviours’. Future research using factor analytic exploratory and confirmatory methods on a clinical population would provide stronger support of the factor structure found in the first empirical investigation.

The third empirical investigation focused on the applicability of the CB-PM to the processes and outcomes of cognitive-behaviour therapy in an outpatient depressed population. The current research could be extended by investigations into the CB-PM’s applicability to cognitive-behaviour therapy in other psychiatric settings and populations. Future findings of the reliability and validity of the CB-PM in these different settings and populations would demonstrate the CB-PM as a robust cognitive-behavioural measure with applicability beyond the depressed population utilised in the current work.

A limitation of the third study was that measures were not taken at various stages of the cognitive-behavioural intervention process. Research that included measures of psychological mindedness, process measures (e.g., the ATQ and DAS),

and outcome measures at various time intervals would provide interesting information as to how psychological mindedness might relate to treatment outcome. For example, it might be the case that improvements in psychological mindedness from pre- to mid-treatment may predict less depressogenic ideation, and then lead to improved post-treatment depression severity. Hence, a time-series design might provide important temporal information as to how psychological mindedness might relate to both the processes and outcomes of cognitive-behaviour therapy.

7.9 Conclusion

The current dissertation is, to the author's knowledge, the first to develop and validate a measure of psychological mindedness that adopts a cognitive-behavioural perspective on the construct. Furthermore, it is the first to test the applicability of such a measure to the processes and outcomes of cognitive-behaviour therapy. The first and second empirical investigations provided some initial evidence for (a) the internal, inter-rater, and test-retest reliability of the CB-PM, and (b) convergent and divergent validity of the measure in an undergraduate student population. Furthermore, the third study demonstrated the CB-PM (a) to predict improved outcome in cognitive-behaviour therapy for depression, and (b) to be sensitive to changes in psychological mindedness over the course of cognitive-behaviour therapy. In summary, the overall findings provide some support for the applicability of the CB-PM to the processes, outcomes, and practice of cognitive-behaviour therapy.

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Appendix A

Cognitive-Behavioural Measure of Psychological Mindedness

“I would like to ask you some questions about how you respond to certain situations. So, if you could read the [first, second, or third] situation to yourself, and try to think of a time when something like this has happened to you.”

The Situations

1. Someone gets on your nerves. They may be critical or bossy or maybe you have to be with someone you don't like. So, *the first situation is being with someone who gets on your nerves.*
2. An unpleasant experience from the past that didn't go the way you wanted.
3. You are kept waiting without explanation, or someone doesn't do what they said they would do. So, *the third situation is being let down by someone.*

Situation 1

“Has this happened to you?”

Yes / No

“How long ago did this happen?”

“How often does this happen to you?”

Once / Rarely / Sometimes / Often

“Please tell me what you’ve remembered, just in one or two sentences”

.....
.....
.....
.....

Situation 2

“Has this happened to you?”

Yes / No

“How long ago did this happen?”

“How often does this happen to you?”

Once / Rarely / Sometimes / Often

“Please tell me what you’ve remembered, just in one or two sentences”

.....
.....
.....
.....

Situation 3

“Has this happened to you?”

Yes / No

“How long ago did this happen?”

“How often does this happen to you?”

Once / Rarely / Sometimes / Often

“Please tell me what you’ve remembered, just in one or two sentences”

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Questions (asked about each situation)

1. “What emotions are you likely to feel when you are in this situation?”

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2. “Where in your body would you be aware of this emotion?”

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3. “How are you likely to behave in response to this situation?”

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4. “What thoughts are likely to go through your mind while in this situation?”

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5. "Can you give me an example of a thought you could have about this situation that might make you feel more distressed?"

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6. "How might this thought influence your behaviour?"

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7. "Can you give me an example of a thought you could have about this situation that might make you feel less distressed?"

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8. "How might this thought influence your behaviour?"

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9. "Can you think of anything about your experiences in life that might lead you to be particularly distressed by this type of situation?"

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10. "Can you think of anything about your experiences in life that might lead you to be less distressed by this type of situation?"

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11. "What might you notice immediately before becoming distressed about the situation that would warn you that you might get distressed?"

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12. "What mood might you be in as a consequence of this situation?"

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Appendix B

Research Information Sheet

Are First-Year Psychology 1 Students Psychologically Minded?

You are invited to take part in a study that looks at people's ability to describe thoughts, emotions, and behaviours that are associated with particular situations.

The concept of psychological mindedness has been defined as a person's ability to see relationships among thoughts, feelings, and actions. While clinicians have shown interest in this concept, there have been few attempts to develop and scientifically evaluate a measure of psychological mindedness. In this particular research study, we want to evaluate a new measure of psychological mindedness.

Your participation in this project will firstly involve you filling in various questionnaires. The questionnaires look at psychological mindedness, personality, and your ability to describe emotions. You will also be asked to carry out a brief reading task.

Secondly, you will be interviewed about a number of previous situations that you may have experienced (such as being with someone who gets on your nerves). Essentially, you will be asked to describe your thoughts, emotions, and behaviours associated with the situation. The interview may be tape-recorded, but your identity will remain anonymous and all responses will be kept strictly confidential.

It is anticipated that your participation in the study will take approximately 1 hour.

Your participation in the study is entirely voluntary and you have the right to withdraw from the study at any time.

While information gained during the study may be published, you will not be identified and your personal results will not be divulged. Confidentiality will be ensured by keeping all research data in a locked filing cabinet, located in a locked room in the Psychology Department.

Should you require further details about the study, either before, during or after the study, you may contact the PhD. student, Matthew Davies (e-mail: mldavies@psychology.adelaide.edu.au), or his supervisor, Assoc. Prof. Helen Winefield (e-mail: helen.winefield@psychology.adelaide.edu.au, Tel: 8303 3172).

This study has been approved by the Psychology Department's Human Ethics Subcommittee, Adelaide University. Should you wish to discuss the study with someone not directly involved, in particular in relation to matters concerning policies, information about the conduct of the study, or your rights as a participant, you may contact Dr. Paul Delfabbro, the Convenor of the Psychology Department's Human Ethics Subcommittee at Adelaide University (e-mail: paul.delfabbro@psychology.adelaide.edu.au, Tel : 8303 5744).

Appendix C

PSYCHOLOGICAL MINDEDNESS STUDY

CONSENT FORM

1.	I, <i>(please print name)</i> consent to take part in the research project entitled "Are First-Year Psychology Students Psychologically-Minded?"
2.	I acknowledge that I have read the attached Information Sheet
3.	I have had the project, so far as it affects me, fully explained to my satisfaction by the researcher. My consent is given freely.
4.	Although I understand that the purpose of this research project is to help our current understanding of psychological mindedness, it has also been explained that my involvement may not be of any benefit to me.
5.	I have been informed that, while information gained during the study may be published, I will not be identified and my personal results will not be divulged.
6.	I understand that I am free to withdraw from the project at any time.
7.	I am aware that I should retain a copy of this Consent Form, when completed, and the attached Information Sheet.

Participant Signature for Psychological Mindedness Study

..... <i>(signature)</i> <i>(date)</i>
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WITNESS

I have described to <i>(name of subject)</i>	
the nature of the procedures to be carried out. In my opinion she/he understood the explanation.	
Status in Project:	
Name:	
.....	
<i>(signature)</i>	<i>(date)</i>

Appendix D

Discriminating between Thoughts, Emotions, Behaviours, and Bodily Sensations

For each of the following items, please indicate by ticking the appropriate box whether it is a thought, emotion, behaviour, or bodily sensation.

		Thought	Emotion	Behaviour	Bodily Sensation
1.	Scared				
2.	I can't stand it				
3.	Phoning the police				
4.	Sweating				
5.	Frightened				
6.	They're being stupid				
7.	There's no hope				
8.	Shaking				
9.	Frustrated				
10.	What's wrong with me				
11.	Irritable				
12.	Driving to a funeral				
13.	Heart beating fast				
14.	Anxiety				
15.	Arguing with a neighbour				
16.	Nausea				
17.	They don't care about me				
18.	I should've known better				
19.	Dropping your car keys				
20.	Annoyed				
21.	Standing in a long cue				
22.	This is meaningless				
23.	I'm no good				
24.	Dizziness				
25.	Butterflies in the stomach				
26.	Falling over				
27.	Devastated				
28.	Talking with someone				
29.	Knocking your head				
30.	Shaky				
31.	Depressed				
32.	Trembling				
33.	Disappointed				
34.	I'm a failure				
35.	Lifting a heavy box				
36.	Nervous				
37.	I'm worthless				
38.	Blushing				
39.	Lump in the throat				
40.	Filling in a tax return				

Appendix E

Identifying Connections between Thoughts, Emotions, Behaviours, and Bodily Sensations

There are six multiple choice questions for each of the following five situations. Please indicate your response by circling the best answer (only circle one answer for each question).

Situation 1

David, a 43-year-old man, was sitting around a table at work for a staff meeting. He wanted to raise some concerns he had about the company purchasing a new photocopying machine.

As David was about to speak, he thought, “What if the other staff members don’t agree with me? What if they think my concerns are stupid? Maybe I shouldn’t raise this issue now, they might disagree with me and there might be a huge argument”.

Questions

Based on David’s thoughts, which of the following emotions might he be experiencing?

1. Anger
2. Happiness
3. Anxiety
4. Sadness
5. Relaxed

Based on David’s thoughts, how do you think he might behave?

1. He will speak up and tell the staff members what he thinks
2. He will remain silent
3. He will speak aggressively and try to argue with staff

Based on David’s thoughts, which of the following bodily sensations might he be noticing?

1. Heart beating fast and sweating
2. Heart beating fast and a hot/flushed face
3. Lethargy and sluggishness
4. None of the above

Now, imagine instead that David had thought to himself: “I think it’s important that the other workers hear my opinion about the photocopying machine, perhaps they might agree with what I have to say”.

Questions

Based on David’s thoughts, which of the following emotions might he be experiencing?

1. Anger
2. Happiness
3. Anxiety
4. Sadness
5. Relaxed

Based on David's thoughts, how do you think he might behave?

1. He will speak up and tell the staff members what he thinks
2. He will remain silent
3. He will speak aggressively and try to argue with staff

Based on David's thoughts, which of the following bodily sensations might he be noticing?

1. Heart beating fast and sweating
2. Heart beating fast and a hot/flushed face
3. Lethargy and sluggishness
4. None of the above

Situation 2

Mary, a university student aged 19, was working on a group assignment with three other students. Before meeting with each other, they had agreed to each do some work on the assignment separately and then meet to put their work together. After talking with the students about the assignment, Mary found that none of the students had done the work they had agreed to do.

Mary thought to herself, "This is not fair, we agreed to do our work before we met up and they haven't done any of it. I bet they're expecting me to do all the work!".

Questions

Based on Mary's thoughts, which of the following emotions might she be experiencing?

1. Anger
2. Happiness
3. Anxiety
4. Sadness
5. Relaxed

Based on Mary's thoughts, how do you think she might behave?

1. She will speak up and tell the other students that she is unhappy with them
2. She will talk and sympathise with the students about how heavy the workload has been lately
3. She will talk to them about what she did on the weekend

Based on Mary's thoughts, which of the following bodily sensations might she be noticing?

1. Heart beating fast and sweating
2. Heart beating fast and a hot/flushed face
3. Lethargy and sluggishness
4. None of the above

Now, imagine instead that Mary had thought to herself: "I wonder why the other students haven't done their work. I guess they must have been busy with all the assignments that we've had recently"

Questions

Based on Mary's thoughts, which of the following emotions might she be experiencing?

1. Anger
2. Happiness
3. Anxiety
4. Sadness
5. Relaxed

Based on Mary's thoughts, how do you think she might behave?

1. She will speak up and tell the other students that she is unhappy with them
2. She will talk and sympathise with the students about how heavy the workload has been lately
3. She will talk to them about what she did on the weekend

Based on Mary's thoughts, which of the following bodily sensations might she be noticing?

1. Heart beating fast and sweating
2. Heart beating fast and a hot/flushed face
3. Lethargy and sluggishness
4. None of the above

Situation 3

Michael, aged 43, was sitting in the lounge room with his wife and three children watching television. They were watching a comedy that his kids enjoy but he dislikes.

Michael thought to himself, "I'm really sick of this...I always have to watch this stupid show that the kids like and I never get to watch what I want".

Questions

Based on Michael's thoughts, which of the following emotions might he be experiencing?

1. Anger
2. Happiness
3. Anxiety
4. Sadness
5. Relaxed

Based on Michael's thoughts, how do you think he might behave?

1. He will get up and change the channel
2. He will tell his family how much he enjoys spending time watching television with them
3. He will start crying

Based on Michael's thoughts, which of the following bodily sensations might he be noticing?

1. Heart beating fast and sweating
2. Heart beating fast and a hot/flushed face
3. Lethargy and sluggishness
4. None of the above

Now, imagine instead that Michael had thought to himself: "Although I don't like this show, it's great that we get to spend time as a family and the kids are enjoying themselves".

Questions

Based on Michael's thoughts, which of the following emotions might he be experiencing?

1. Anger
2. Happiness
3. Anxiety
4. Sadness
5. Relaxed

Based on Michael's thoughts, how do you think he might behave?

1. He will get up and change the channel
2. He will tell his family how much he enjoys spending time watching television with them
3. He will start crying

Based on Michael's thoughts, which of the following bodily sensations might he be noticing?

1. Heart beating fast and sweating
2. Heart beating fast and a hot/flushed face
3. Lethargy and sluggishness
4. None of the above

Situation 4

Jane, a single mother aged 31, was washing the dishes while her two children were playing and making a noise in the lounge room.

As Jane was washing the dishes, she thought: "Those kids have no consideration for me, but why would they? I'm not bringing them up properly and that's why they're loud all the time...I feel like a complete failure"

Questions

Based on Jane's thoughts, which of the following emotions might she be experiencing?

1. Anger
2. Happiness
3. Anxiety
4. Sadness
5. Relaxed

Based on Jane's thoughts, how do you think she might behave?

1. Sit at the table and cry
2. Yell at the kids to be quiet
3. Walk into the lounge and play with the kids

Based on Jane's thoughts, which of the following bodily sensations might she be noticing?

1. Heart beating fast and sweating
2. Heart beating fast and a hot/flushed face
3. Lethargy and sluggishness
4. None of the above

Now, imagine instead that Jane had thought to herself: "Those bloody kids have no respect, how dare they make such a noise!".

Questions

Based on Jane's thoughts, which of the following emotions might she be experiencing?

1. Anger
2. Happiness
3. Anxiety
4. Sadness
5. Relaxed

Based on Jane's thoughts, how do you think she might behave?

1. Sit at the table and cry
2. Yell at the kids to be quiet
3. Walk into the lounge and play with the kids

Based on Jane's thoughts, which of the following bodily sensations might she be noticing?

1. Heart beating fast and sweating
2. Heart beating fast and a hot/flushed face
3. Lethargy and sluggishness
4. None of the above

Situation 5

Andrew, aged 28 is working late at the office and hears a loud noise outside.

As Andrew heard the noise, he thought: "That must be the wind blowing the rubbish bin over".

Questions

Based on Andrew's thoughts, which of the following emotions might he be experiencing?

1. Anger
2. Happiness
3. Anxiety
4. Sadness
5. Relaxed

Based on Andrew's thoughts, how do you think he might behave?

1. He will continue working at the office
2. He will run over to the window and carefully peer outside
3. He will stop working and go home

Based on Andrew's thoughts, which of the following bodily sensations might he be noticing?

1. Heart beating fast and sweating
2. Heart beating fast and a hot/flushed face
3. Lethargy and sluggishness
4. None of the above

Now, imagine instead that Andrew had thought to herself: "That noise could be robbers breaking into my office!".

Questions

Based on Andrew's thoughts, which of the following emotions might he be experiencing?

1. Anger
2. Happiness
3. Anxiety
4. Sadness
5. Relaxed

Based on Andrew's thoughts, how do you think he might behave?

1. He will continue working at the office
2. He will run over to the window and carefully peer outside
3. He will stop working and go home

Based on Andrew's thoughts, which of the following bodily sensations might he be noticing?

1. Heart beating fast and sweating
2. Heart beating fast and a hot/flushed face
3. Lethargy and sluggishness
4. None of the above

Appendix F

Research Information Sheet

Are First-Year Psychology 1 Students Psychologically Minded?

You are invited to take part in a study that looks at people's ability to describe thoughts, emotions, and behaviours that are associated with particular situations.

The concept of psychological mindedness has been defined as a person's ability to see relationships among thoughts, feelings, and actions. While clinicians have shown interest in this concept, there have been few attempts to develop and scientifically evaluate a measure of psychological mindedness. In this particular research study, we want to evaluate a new measure of psychological mindedness.

Your participation in this project will firstly involve you filling in various questionnaires. The questionnaires look at psychological mindedness and your ability to describe emotions.

Secondly, you will be interviewed about a number of previous situations that you may have experienced (such as being with someone who gets on your nerves). Essentially, you will be asked to describe your thoughts, emotions, and behaviours associated with the situation. The interview may be tape-recorded, but your identity will remain anonymous and all responses will be kept strictly confidential.

It is anticipated that your participation in the study will take approximately 1 hour.

Your participation in the study is entirely voluntary and you have the right to withdraw from the study at any time.

While information gained during the study may be published, you will not be identified and your personal results will not be divulged. Confidentiality will be ensured by keeping all research data in a locked filing cabinet, located in a locked room in the Psychology Department.

Should you require further details about the study, either before, during or after the study, you may contact the PhD. student, Matthew Davies (e-mail: mldavies@psychology.adelaide.edu.au), or his supervisor, Assoc. Prof. Helen Winefield (e-mail: helen.winefield@psychology.adelaide.edu.au, Tel: 8303 3172).

This study has been approved by the Psychology Department's Human Ethics Subcommittee, Adelaide University. Should you wish to discuss the study with someone not directly involved, in particular in relation to matters concerning policies, information about the conduct of the study, or your rights as a participant, you may contact Dr. Paul Delfabbro, the Convenor of the Psychology Department's Human Ethics Subcommittee at Adelaide University (e-mail: paul.delfabbro@psychology.adelaide.edu.au, Tel : 8303 5744).

Appendix G

PATIENT INFORMATION SHEET

Title: 'The use of psychological therapy to help you understand your thoughts and emotions'

Introduction

We invite you to participate in a research project which we believe is of potential importance.

However, before you decide whether or not you wish to participate, we need to be sure that you understand

why we are doing it, and

what it would involve if you agreed.

We are therefore providing you with the following information.

Please read it carefully and be sure to ask any questions you have.

The researcher will be happy to discuss it with you and answer any questions that you may have.

You are also free to discuss it with outsiders if you wish. (ie, family, friends and / or your local Doctor)

You do not have to make an immediate decision.

Your participation is purely voluntary, and you are under no pressure to participate.

Should you agree to enter the research study, you may change your mind and withdraw at any stage.

What is the study about?

This study is about people's ability to identify the different types of thoughts and emotions that are a part of their everyday lives. In psychological therapy, it is important for the client to feel able to express how they think and feel about a variety of life events. Therefore, the ability to describe thoughts and emotions may be helpful for people to benefit from psychological therapy. This study will assess whether this ability is helpful in psychological therapy, and whether this in turn leads to positive outcomes.

Who will manage my treatment if I take part?

Your current therapist will continue to provide you with your usual psychological services.

How does the study work?

All subjects who express to their therapist that they are happy to be contacted, will receive a telephone call from the research investigator 2-3 days after their therapy session. During the telephone call, the researcher will explain the study further, answer any questions, and ask whether you are willing to arrange a time and location to do the study. The study consists of one initial interview, and a follow-up interview 3 months later.

What happens during the study?

The interview will take up to 90 minutes and includes a number of self-report questionnaires about symptoms and emotional awareness. You will also be asked about how you respond to some common situations that you may have experienced (such as being with someone who gets on your nerves). The interview will be tape-recorded, but your identity will remain anonymous and all responses will be kept strictly confidential.

What are the risks and / or discomforts in the study?

Part of the interview will require you to talk about common negative situations that you may have experienced. It is possible (though unlikely) that someone might experience mild discomfort when talking about these everyday life events. However, there is no pressure on you to discuss anything that you are not ready or willing to discuss.

What will I get out of the study?

There are no direct benefits to you for participating in the study. However, we hope that the results of this study will improve our understanding of how psychological therapy helps people to understand their thoughts and emotions.

What happens to the results?

The results will be reported as part of a PhD. in Psychology at the University of Adelaide. Depending on the results, the investigators may consider publishing these results through a journal. Please note that any results will be based on group data, and will not be reported in a manner which will allow the identification of any participants.

Voluntary Participation-What happens if I say no?

Before deciding whether or not to take part in this research project, you may wish to discuss the matter with a relative or friend. You should feel free to do this. It is important that you understand that your participation in this research project is voluntary, as is the case with all research projects in the hospital or community service. If you do not wish to take part you are under no obligation to do so. If you decide to take part but later change your mind, you are free to withdraw from the project at any stage. Your decision to take part, not to take part, or to withdraw, will not affect your routine treatment or your relationship with those treating you or your relationship with the hospital or community service.

Compensation in case of injury

All participants in the study are covered under the same arrangements as if attending a regular clinic appointment.

What if I have a question about the study?

Should you require further details about the study, either before, during or after the study, you may contact the PhD. student, Matthew Davies (email: mldavies@psychology.adelaide.edu.au), or his supervisors, Dr. Helen Winefield (email: helen.winefield@psychology.adelaide.edu.au, Tel: 8303 3172) or Dr Brian Johnston (email: brian.johnston@nwahs.sa.gov.au, Tel: 8222 8900).

This study has been approved by the North Western Adelaide Health Service Ethics of Human Research Committee. Should you wish to speak to a person not directly involved, in particular in relation to matters concerning policies, information about the conduct of the study or your rights as a participant, or should you wish to make a confidential complaint, you may contact the Executive Officer of this Committee, Mr Paul Miller on 08 8222 6841.

Appendix H

Standard Consent Form

1. I, the undersigned
hereby consent to my involvement in the research project titled:
'The use of psychological therapy to help you understand your thoughts and emotions'

2. I have read the information sheet, and I understand the reasons for this study. The ways in which it will affect me have been explained by the research worker. My questions have been answered to my satisfaction. My consent is given voluntarily.

3. The details of the research project have been explained to me, including:-
 - the expected time it will take
 - the nature of any procedures being performed, and the number of times they will be performed
 - any risks/discomforts which I may experience

4. I understand that the purpose of this research project is to improve our understanding of psychological mindedness, but my involvement may not be of benefit to me.

5. I have been given the opportunity to have a member of family or a friend present while the project was explained to me.

6. No information about my medical history will be taken from the hospital without the researcher being present. My identity will be kept confidential, and nothing will be published which could possibly reveal my identity.

7. My involvement in the project will not affect my relationship with my health workers. I understand I am free to withdraw from the project at any stage without having to give any reasons, and that if I do withdraw from the project it will not affect my treatment at this community centre in the future.

SIGNED

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ADDRESS

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WITNESS

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RESEARCH WORKER

.....

DATE

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