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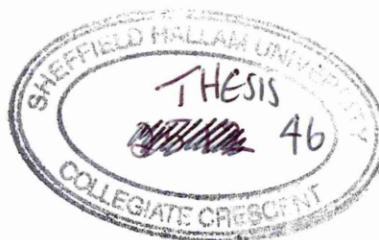
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# **A Theory of Commitment to Belief and its Positive Effects on Well Being**

**Liza Day**

**A thesis submitted in partial fulfilment of the requirements of  
Sheffield Hallam University for the Degree of Doctor of Philosophy**

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## **ABSTRACT**

The aim of the present research was to provide a theoretical, research, and measurement context to the notion that a commitment to belief leads to a positive outcome, particularly in terms of mental health. The present work seeks to test a number of hypotheses derived from a Jungian theoretical framework, but seeks to draw on modern personality, individual difference, cognitive and social psychological theory to critically examine findings.

A total of 14 studies (10 which use original data) are carried out that (1) develop a measure of commitment to belief (Chapter 2), (2) examine the reliability and validity of the commitment to belief measure (Chapters 2 and 3), (3) examine psychological correlates of the commitment to belief measure against measures thought to reflect Jungian descriptions (Chapters 4, 5 and 6), and (4) examine the relationship between commitment to belief and mental health within the context of modern theories of stress appraisal and coping style (Chapter 7 and 8).

The present findings suggest it may be possible to measure commitment to belief, and that a person scoring high on the commitment to belief scale tends to report: fewer depressive symptoms, less anxiety, less social dysfunction, fewer somatic symptoms, liking words that suggest completeness or wholeness, sometimes higher levels of extraversion, higher levels of optimism, using challenging primary appraisals, using a positive reinterpretation and growth coping style, and using their beliefs to deal with major life events.

Such findings suggest the development and measurement of a construct that has a relationship to a number of variables that can be interpreted within a Jungian framework of ideas. Future research is needed to examine the applied nature of the measurement of commitment to belief.

## **ACKNOWLEDGEMENTS**

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## **PREFACE: A Context for the Thesis**

It may be necessary to provide some context for the following thesis. There seems to be two forms of PhD submission in present UK institutions; the first is through a studentship, whereby (under present guidelines), the student presents unpublished work, and the PhD is partly viewed as comprising research training leading to a researcher capable of publication. The second is submission of a PhD through publication, for established researchers, where a collection of articles is presented within an introduction/discussion context for consideration.

The present submission presents a mixture of both, as the submission comprises research that is entirely new, but is based firmly within the context of work that has already been published by the author. It is, therefore, important to note that the ideas for presenting an original contribution to the literature grew out of existing and published research work.

This impacts on the presentation of the PhD in two ways;

1. The work does not necessarily start from an outline of theory, review of relevant research, leading to an examination of several research ideas. Rather, the work re-interprets/examines some present research (some of which is led by the author), then tries to provide a theoretical context for the present work, and then seeks to test and develop this context through the examination of research questions.<sup>1</sup>
2. The work does not represent a growth in research training around developing a range of methods; rather, there is a use of traditional quantitative and experimental methods to develop a research idea. As such, a quantitative methodology and outlook are already defined and expected within much of

---

<sup>1</sup> In as much, this PhD is similar to the type of PhD which may come from commissioned work/project or a funded project which is extended into a PhD which is often found in educational and occupational psychology.

the current research literature work, as to be consistent with existing research.<sup>2</sup>

Aside from these aspects, all the usual features of a PhD are present, with the work pulling from a range of literature across disciplines within the subject to provide an interpretation of recent research, a modern context to some very old ideas, an impetus for future research, and an original contribution to the psychological literature.

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<sup>2</sup> That is not to say that the quantitative analysis used in the present work is not advanced or inventive, with some work comprising qualitative aspects and representing the statistical examination of the goodness of fit of some psychological models.

## **CHAPTER ONE**

A theoretical context for findings supporting commitment to belief and  
positive outcomes from belief

The study of belief is not a new phenomena; however, interest has been re-generated and greatly increased over recent years. The shift in emphasis from philosophical theory (such as Foucault's writings on belief systems [1970; 1980], and William James's first links of belief to psychology [1902/1985]) towards the scientific study of belief has led to substantial and exciting progress in the understanding of belief and its effects on psychological well-being, and as a consequence, in some cases, the development of therapy techniques for relieving symptoms (cognitive therapy). In spite of the progress made, however, there are still very many inconsistencies in the research to date, and there is a lot more scope for improving our understanding. This is particularly the case with the research examining the relationship between belief as a function and positive effects on health. There appears to be very little research directly investigating the actual construct of belief (the energy, or dynamic of belief, behind the observable belief), and its relationship to psychological well-being, as opposed to specific belief and well-being (i.e. the direction of belief – how the belief manifests itself), as well as little theoretical guidance as to the why and how belief affects health. As a step towards filling this apparent research void, this thesis seeks to systematically examine the relationship between commitment to a belief and its positive effects on well-being, whilst providing a theoretical context.

As a result of the research activity in the field of belief, several theories of how specific beliefs effect health have been proposed, and extensively tested. Belief, as with attitudes, has been considered as possessing a function, that is, that a person's beliefs, and consequently their behaviours derived from these beliefs, serve the needs of the individual (e.g. Allport, 1960; Frankl, 1978; Jung, 1958; Maltby, Lewis, & Day, 1999; Maslow, 1971; Seligman, 1990; Thoreson, 1999; Scheier & Carver, 1985). Beliefs have been considered via a number of constructs, such as spirituality (Gartner, Larson & Allen, 1991; Jung, 1933; Maltby & Day, 2000; Westgate, 1996), religion (Crawford, Handal & Weiner, 1989; Gorsuch, 1988; Maltby & Day, 2000; in press; Maltby, Lewis & Day, 1999; Pargament, 1997; Sharkey & Maloney, 1986), more cognitive attitudes on belief, including Locus of Control (Findley & Cooper, 1983; Lefcourt, 1982; Presson & Banassi, 1996), Just World Belief (Lerner, 1980; Miller & Mangan, 1983; Seligman, 1975), optimism (Aspinwall & Taylor, 1992; Carver & Scheier, 1981; 1982; Chang, Maydeu-Oliveras & D'Zurilla, 1997; Scheier & Carver, 1985), and Irrational Beliefs (Chang & Bridewell, 1998; Ellis, 1962;

1995). Belief has been reported to have both beneficial and detrimental effects on a person's well-being. These research areas are fully established, and are interesting because they demonstrate how particular beliefs have both positive and negative effects on the mental health of the individual, and suggest that certain individuals have a vulnerability to become anxious, depressed, or lower in self-esteem due to believing in certain 'detrimental', or 'irrational' beliefs (e.g. Ellis, 1962; 1995). However, alongside these supposed 'negative' effects on mental health, researchers have also shown that specific beliefs, such as religion and belief in good luck, also have 'positive' effects on the individual. If this is the case, as authors such as Darke and Freedman (1997), Maltby and Day (2000), Pargament (1997) have demonstrated, further research into the dynamic of the actual construct of belief is called for.

Belief, then, is a phenomenon that has many and varied consequences. Because of this, it is of great interest to psychologists, with emphasis around consequent behaviour, effects on general health, and psychological well-being. However, major considerations and overviews of belief tend towards considering them as specific, independent beliefs; not as how and why belief, as a construct, functions as it does, but how specific beliefs (such as religion, irrational beliefs, e.g. luck, etc.) are structured, formed or changed, and what psychological purpose these specific beliefs serve. The research reported in this thesis attempts to address recent findings that belief has a positive effect on mental health, and seeks to establish a theoretical context to why belief performs/functions in this way. Firstly, however, a discussion of the relevant literature will be presented, in order to further explain the need for this research.

The present chapter, then, is designed to look at two areas of belief (religion and luck) more closely, in order to present arguments for a programme of research. Though both areas of research, in religion and luck, are somewhat disparate and fragmented, certain elements emerge from these areas that (i) highlight the importance of belief to the well-being of the individual; (ii) demonstrate similarities in how they are presently conceptualised; and (iii) suggest how an overall interpretation of belief (how the underlying construct of belief is functioning in itself, and not how the manifested, specific, belief functions) may be required, and be applied to understand some recent theoretical speculations. There will then follow a



presentation of how a theoretical context can be supplied by returning to the traditional theories of Jung. Finally, problems and concerns of the type of methodology needed to explore the programme of research will be addressed. Firstly, however, various definitions of belief will be presented in order to outline how the word/construct of 'belief' will be used within this thesis, as well as a general theoretical context for how belief will be perceived and conceptualised.

## **Belief Definition**

As with any research process, it is very useful to have a relatively clear conceptualisation of the phenomenon of interest. It would, therefore, be very useful to outline what belief might be, and how it will be conceived within this thesis.

The word 'Belief' is generally used in the standard dictionary sense for an emotional acceptance, or confidence, of some proposition, statement or doctrine (Reber, 1985). However, the term 'Belief' has many and varied conceptualisations within psychology, and the research literature concerning belief often uses the term 'belief' in conjunction, or as well as, terms such as 'opinion' or 'attitude'.

Opinion is generally a tentatively held and expressible point of view, and the term is usually used with the connotations of being intellectually held and based on at least some facts or data. These aspects can help, somewhat, to differentiate opinion from belief (where an emotional component is entailed), and from attitude (which has a much broader range of semantic implication).

According to Reber (1985), psychology regularly gets itself into stormy definitional waters, when referring to attitudes, no more so than when a term like 'attitude' is used to denote a concept of fundamental importance in human behaviour and when the domain of reference turns out to be much more complex than the original researcher imagined. However, in traditional personality and social psychology, attitudes have taken on an explanatory role (rather than a descriptive one), whereas an attitude is viewed as some internal affective orientation that would explain the actions of a person. This meaning is basically one of *intention*, but

entails several components, namely; *cognitive* (consciously held belief or opinion); *affective* (emotional tone or feeling); *evaluative* (positive or negative); and *conative* (disposition for action). Reber (1985) suggests that there is considerable dispute as to which of these components should be regarded as more, or less, important. Cognitive theorists usually maintain that the underlying belief is fundamental, behaviourally oriented theorists focus in the conative, and most other researchers feel that a combination of the affective and evaluative components are the critical ones. Exactly how the term is used in modern psychological literature will, thus, depend largely on the theoretical tilt on the writer. Finally, other authors, by attempting to rescue the term from its fuzziness of usage, consider attitude as a response tendency, i.e. regard attitudes as things, which can only be inferred from observed behaviours (Reber, 1985).

Within the literature on belief, then, these three terms, particularly belief and attitude, consistently overlap, and it is impossible to review the literature without encountering both terms. Therefore, this thesis will also use both terms interchangeably, considering attitude within a more cognitive and affective domain, i.e. as having emotional tone or feeling, and maintaining the underlying belief as fundamental. However, this thesis will attempt to use the term attitude, instead of belief, when discussing a suggested observable behaviour, in other words, when *measuring* belief.

### **A general theoretical context for belief**

If there were a general theoretical context in which to understand this thesis, under which it will be argued that Jungian ideas can be used as a basis to test research questions relating to positive outcomes of belief, it would be placed *generally* within a functional theory of attitude.

Within a functional theory of attitude there is an emphasis on social attitudes and belief being seen as serving a purpose (Katz, 1960). Originally Katz (1960) suggested that attitudes and beliefs held by any individual serves any one of four personality components. These include the:

1. *Utilitarian* function (Katz, 196), also known as Instrumental and Adaptive (Eagly & Chaiken, 1993), in which people are motivated by securing positive outcomes and resisting negative outcomes,
2. *Knowledge* function with which attitudes are used to supply a standard frame of reference for organising and simplifying information from the world.
3. *Ego defensive* function, which emphasises the psychoanalytic principle of the use of defence mechanisms to preserve self-concept against internal and external threats.
4. *Value expressive* function, which emphasises the importance of attitudes as a need for self-expression and self-actualisation.

There is relatively little theorising that seeks to add to these functions (Eagly & Chaiken, 1993), and very little available empirical evidence (Shavitt, 1989). Originally, Katz (1960) saw these aspects as distinct functions, however, there has been some attempt to integrate or combine the four functions (Eagly & Chaiken, 1993). For example, there is thought to be the *Object-appraisal* function, sometimes thought to be an integrated version of the *Utilitarian* and *Knowledge* functions (Herek, 1986; Kiesler, Collins & Miller, 1969; Tesser & Shaffer, 1990) which is thought to provide individuals with schemas for assessing objects and events in terms of the interests of the individual. Other authors, Abelson and Prentice (1989), Herek (1986), and Shavitt (1989; 1990), have also sought to integrate and elaborate on Katz's model, yet have always placed the integration within Katz's original distinctions (Eagly & Chaiken, 1993).

What is pertinent to the present consideration is that some authors have combined the functions. This overlap between many of the concepts is important in providing a general theoretical context to the present research programme, because each of the four aspects of Katz's (1960) model emerge in the following thesis, providing a general context. Thus, in the following theory and research, the

emphasis is on attitudes<sup>3</sup> serving as a function. That is, in this and the following chapters, ideas in relation to the ways that attitudes secure positive outcomes and resist negative outcomes, supply a standard frame of reference for organising and understanding the world, emphasise psychoanalytic principles (albeit in this work Jungian principles rather than traditional Freudian ego-defensive theory are important), and stressing the importance of attitudes as a need for self-expression and self-actualisation are explored.

Thus, using this context, two areas of belief (religion and luck) will be presented, in order to forward arguments for this thesis. As mentioned earlier, certain elements emerge from the research of both religion and luck that:

1. Stress the importance of belief to psychological well-being and how the importance of belief may have positive outcome in terms of mental health
2. Examine how researchers within certain areas have tried to explain positive outcomes of a specific belief and, finding problems in explaining this, have suggested how an overall interpretation (how the underlying construct of belief is functioning in itself) may be required, and be applied to understand these explanations, and
3. Because of this, suggest the need for a provision of an overall theory that centres on a commitment to belief

Each of these points will now be considered individually, where research on religion and luck can be used as an argument/proposal for the direction of this thesis.

#### (1) The importance of belief to psychological well-being: positive outcomes in terms of mental health.

As previously mentioned, the literature suggests that beliefs can be related to an individual's mental health, though often, within sets of the literature, a distinction can be made as to whether the belief has a *positive* effect or a *negative* effect on

---

<sup>3</sup> Though belief is used commonly throughout the work, but here as in the functional theory of attitude (see for example Abelson & Prentice, 1989) the two terms are used interchangeably.

mental health. Two examples from the literature show this; religiosity and belief in luck.

The first example is religiosity. Many authors debate the issue of whether religion has beneficial or detrimental effect on the mental well-being of individuals (Beit-Hallahmi & Argyle, 1997; Gorsuch, 1988; Wulff, 1997). However, one area of research has suggested that distinctions can be made between individuals' orientation toward religion, and it is these religious orientations that are useful in predicting whether religiosity has a positive or negative effect on mental health (Gorsuch, 1988). Three main religious orientations have been identified that are thought to have varying effects on psychological well-being (Allport & Ross, 1967; Beit-Hallahmi & Argyle, 1997; Gorsuch, 1988; Leong & Zachar, 1990; Maltby, 1999a; Wulff, 1997). The first is an *intrinsic* orientation, where a person lives their religious beliefs, the influence of which religion is evident in every aspect of their life (Allport, 1966; Allport & Ross, 1967). The second is an *extrinsic* orientation, which is split into (ii) *extrinsic-personal*, where individuals look to religion for comfort, relief, and protection, and use religious practices for peace and happiness (Kahoe & Meadow, 1981) and (iii) *extrinsic-social*, where individuals look to church for making friends, creating social status, and being part of an in-group (Allport & Ross, 1967; Fleck, 1981; Genia & Shaw, 1991).

Overall, an intrinsic orientation has been found to be related to mental health in finding that it is related to lower anxiety and depression, and higher self-esteem; while both extrinsic orientations are related to poorer psychological well-being through reports of higher extrinsic religiosity being related to higher neuroticism, anxiety, depression and lower self-esteem (Allport, 1996; Allport & Ross, 1967; Baker & Gorsuch, 1982; Batson, 1976; Batson & Gray, 1981; Batson & Ventis, 1982; Bergin, 1983; Fleck, 1981; Genia, 1991; 1996; Genia & Shaw, 1991; Kahoe & Meadow, 1981; Kirkpatrick, 1989; Koenig, 1995; Maltby, 1999a; Maltby, Lewis & Day, 1999; Nelson, 1989; 1990; Park, Cohen & Herb, 1990; Sturgeon, 1979; Watson, Morris & Hood, 1989).

Likewise, recent findings in the area of luck present some similar distinctions. Traditionally, belief in luck has been seen as an irrational belief (Darke & Freedman,

1997). Irrational themes of belief traditionally centre on a cognitive theory to explain the development of maladaptive emotion (Ellis, 1962). Ellis' Rational Emotive Therapy (RET; Bernard & DiGuiseppe, 1989; Ellis, 1985), or more recently renamed Rational Emotive Behaviour Therapy (REBT; see Ellis, 1995) is based on an ABC model of psychological disturbance and therapy, where 'A' is some activating stressful life event (e.g. frustration, failure, rejection), 'B' refers to irrational beliefs, and 'C' refers to the psychological and behavioural consequences of these irrational beliefs, i.e. psychological disturbance and maladaptive behaviours. One of the major assumptions of this model is that a positive relationship exists between the separate constructs of irrational beliefs (B) and psychological disturbance (C), particularly with regards to depression. Empirical support for this assumption has been reported in numerous correlational studies relating irrational belief to mental health (Malouff, Schutte, & McCellend, 1992; Muran, Kassino, Ross, & Muran, 1989; Muran & Motta, 1993; Nottingham, Rosen, & Parks, 1992). However, due to recent findings (Darke & Freedman, 1997a; Day, Maltby & Macaskill, 1999; Day & Maltby, in press), it is unclear whether an irrational belief such as luck is detrimental to mental health. Researchers have begun to re-evaluate the notion that luck is maladaptive, and instead, their findings show that it is adaptive (has a positive effect) when considering the positive illusions around *good luck*; leading to feelings of confidence, control and optimism, increasing self-esteem, and reducing levels of depression and anxiety (Darke & Freedman, 1997a; Day, Maltby & Macaskill, 1999; Day & Maltby, in press; Taylor & Brown, 1988). These findings, then, are contrary to what would be predicted by the usual theory relating to luck and suggest further conceptualisations are needed to understand the positive relationship between belief in an irrational belief (good luck) and mental health (Day, et al., 1999; Day & Maltby, in press).

Such distinctions, then, of both beliefs in religion and luck having contrary positive and negative effects on well-being, suggest that there is some kind of dynamic relationship between the set of beliefs and mental-health. These different outcomes for mental health is very intriguing for authors reporting over-views in the literature; particularly when positive relationships with mental health are found within belief domains that are also related to poorer mental health. What will be discussed next is the lack of empirical theorising for such findings.

(2) An explanation of positive outcomes: Something more than ‘somehow just coping’

As mentioned above, present findings suggest that religiosity and belief in luck can sometimes be associated with better psychological well-being, particularly when concentrating on certain aspects of these beliefs (i.e. intrinsic orientation towards religion, e.g. Genia, 1991; 1996; Genia & Shaw, 1991; Maltby, 1999a; 2000; Maltby, Lewis & Day, 1999; belief in good luck, Darke & Freedman, 1997a; Day, Maltby & MacAskill, 1999; Day & Maltby, in press; Taylor & Brown, 1988). However, within this research there is little overarching theoretical guidance that suggests the reasons for these positive outcomes. Usually researchers, reflecting on such findings, often conclude that individuals demonstrating these set beliefs are able to ‘cope better’ than those other individuals that do not show these aspects of belief (Day & Maltby, 1999; Pargament, 1990, 1997).

At best, some researchers have tried to expand this idea of coping in more detail, though often this is descriptive, or philosophical, more than theoretically, or empirically, led. For example, Pargament (1990, 1996, 1997) makes the distinction between positive religious coping and negative religious coping. This theoretical perspective views religion as a coping process (Pargament, 1990; 1996; 1997; Pargament, Olsen, Reilly, Falgout, Ensing, & Vanhaitsma, 1992; Pargament & Park, 1995). Pargament (1990; 1997) suggests that a religious coping model might better explain the relationship between religiosity and psychological well-being. He argues that such a theoretical model would address the complex and continuous process by which religion interlocks with an individual’s life and allows them to deal with stresses in life. Pargament (1997) uses and extends coping theory, by arguing that religion may enter the coping process in a number of ways, with critical events, appraisals of situations, coping activities and outcomes, to which religion may be integral or external to these occurrences. This model of coping encompasses a number of positive and negative religious coping styles including religious forgiveness, collaborative religious coping, spiritual connection, and religious purification. Pargament, Smith, Koenig and Perez (1998a) report that positive coping is associated with fewer symptoms of psychological distress, while negative

religious coping is associated with higher levels of depression and reporting of psychological symptoms. Such theorising, regarding the influence of religious coping in the relationship between religious orientation and psychological well-being, is useful. However, this consideration cannot, at present, be expanded into a wider theoretical context, i.e. religious coping cannot be used to explain the positive and negative distinction in, for example, the belief of luck etc, and rather, like religious orientation, theory is led by findings from analysis of scales rather than any driving rationale.

Similarly, there is a relationship between belief in 'good' luck and psychological well-being, though theorising does extend beyond a simple coping hypothesis. At best, authors conclude good luck may provide an important means of coping with the very real influences that chance sometimes has on everyday life (Darke & Freedman, 1997; Day *et al.*, 1999). However, despite some findings suggesting that optimism may sometimes play an important role in the relationship between belief in good luck and mental well-being (Day & Maltby, *in press*), again there is little overarching theoretical guidance for this relationship.

However, the literature on the positive effects of religion and belief in good luck do share some similarities, not only in terms of the relationship between some aspects of these beliefs and better mental-health outcomes, but also in the reliance on a simple coping hypothesis to understand these relationships. Not only can this reliance be discussed in its failure to provide a comprehensive theory, but, even when presented with detailed coping theory (as with positive and negative religious coping), some authors have found that religious orientation accounts for unique variance in mental-health measures outside a number of measures of religious and non-religious coping, suggesting both religious orientation and religious coping might *each* contribute uniquely to psychological well-being (Maltby and Day, 2000; *in press*; Maltby, Lewis & Day, 1999). Further to this, some authors have also speculated on certain findings with belief in good luck and the relationship with coping (i.e. optimism), and have yet to be able to conceptualise comprehensively the relationship between belief in good luck, optimism, and mental-health, and dismiss the idea that the variable may also account for unique variance in the relationship between luck and psychological well-being (Day & Maltby, *in press*).



Therefore, there seems a need to begin to conceptualise these findings. With authors coming to such conclusions in these areas, further theorising is limited. At best, authors have only been able to suggest that there may be some integral aspect in the belief itself, that is important to the belief, and that this is a neglected sole emphasis within the psychology of religion, whereby positive outlook and outcomes are central to the research questions (Day & Maltby, 1999; in press; Maltby & Day, 2000; in press). Part of the reason for such an explanation may be due to these aspects being traditionally seen, then, as single personality variables or traits, which are the means to better psychological well-being. However, if this is so, then this personality characteristic or belief trait needs to be examined more closely. This closer examination, and the clues to which psychological processes may be integral to the beliefs that result in better psychological well-being, may already be present in authors' descriptions and speculations regarding the present findings relating to intrinsic religiosity and belief in good luck.

(3) Providing an overall theoretical perspective: The central role of commitment to/strength of belief.

One aspect to the present literature findings, on occasions when distinctions can be made between different types of belief, is that, certain dimensions may reflect a commitment. That is, where the individual has somehow internalised their belief, i.e. that a person has become committed to that belief, and thus it has become an underlying principle in their life.

An example of this, within the current literature, is the references to an intrinsic orientation toward religion, rather than an extrinsic orientation. Individuals defined as having an intrinsic orientation to religion have been described as living their religious beliefs, the influence of which is evident in every aspect of their life (Allport, 1966). Within this perspective, an individual lives, and is committed to, their belief (e.g. intrinsic religion), thus internalising or making it personal, and using it to give meaning and control over their lives, as opposed to an individual who is using it to serve more external purposes (e.g. extrinsic religion). Therefore, it could be argued that it is the commitment/strength of belief that may be integral to the

positive effect on a person's psychological well-being. Other evidence in the psychology of religion supports this. Maltby, *et al* (1999) show that, with frequency of prayer, it is those persons, who show a commitment to prayer (i.e. once a day or more) that show better mental-health, through lower depression, anxiety and higher self-esteem. Here, then, commitment is reflected in the attention and importance placed on religious worship, in that it is a daily activity.

Similar ideas around the importance and commitment/strength of beliefs are echoed in the belief in good luck literature, where this concept of a committed set of ideas being lived, can also be found. Within this literature, belief in good luck is seen as an attempt to understand the world, particularly in response to events in our lives that are largely beyond any direct attempts to control (Darke & Freedman, 1999). The uncertainty associated with the possibility that such events may occur can be quite disconcerting, especially when the consequences are substantial. Rothbaum, Weisz and Snyder (1982) suggest that irrational beliefs about luck may allow individuals to remain optimistic even when it is objectively impossible to exercise direct control over one's circumstances. As such, it is this belief that gives meaning to life and events, and adherence to this belief set helps the person interpret, understand and deal with the world.

Alongside these, there are many other theories of belief that propose that specific beliefs give purpose in life (e.g. Carson, Soeken & Grimm, 1988; Klein, Kupfer & Shea, 1993; Richards, Owen & Stein, 1993; Seligman, 1990). For example, Wright (1993) found that lower depression scores among adolescents are significantly positively correlated to those individuals who found meaning in life. Also, Carson, Soeken and Grimm (1988) found that a sense of life purpose and satisfaction related both to trait hope (hope as a personality characteristic; how one generally feels) and state hope (hope based on specific situations and times; how one feels at the moment).

Such findings, then, need to be conceptualised within a wider theoretical framework, that may not only be used to explain a set of behaviours related to a commitment to belief, but may be useful in understanding why different types of

belief, such as religion and luck, demonstrate a positive effect on psychological well-being, as well as, or in place of, a negative effect.

To summarise, then, it has been argued, so far, that there are 3 main areas in how the research literature can support the need for an overall theory of positive belief, instead of considering individual theories. First, there is some evidence in the literature, which stresses the importance of belief to psychological well-being, and emphasises positive effects on mental health. Second, there is the need to consider these positive effects in more than ‘coping better’ theoretical terms. Third, that it is a commitment/strength of belief that may be important. However, although a strong argument for an overall theory of commitment to belief has been presented, and common variables/constructs put forward to warrant examination of an overall theory, as yet, little theoretical guidance has been identified. Nevertheless, whilst reviewing the aforementioned literature, one traditionalist theorist has proposed similar principles on the nature of belief. This theorist is Jung, who, across his lifetime, outlined theoretical underpinnings that can lend themselves to the strength and commitment shown by individuals to a set of beliefs, rather than to the type of belief. Again, this literature is somewhat fragmented, nevertheless there are definite theoretical constructs that can be drawn upon to support and enhance a theory considering these dimensions to overall belief. These focus on two areas; (i) conceptualising a commitment to belief, and (ii) using commitment to belief to explain positive mental health effects.

### **A commitment to belief: Jung’s theoretical support**

Jung demonstrates throughout his work that commitment is a fundamental part of belief. He indeed sees this commitment as intrinsic to human nature, and thus a person both lives, and is part of their “religious” beliefs, the influence of which, belief is evident in every aspect of their life. Jung provides theoretical guidance for the importance of a commitment to belief in three main ways.

First, Jung shows commitment to a belief through religious experience. For Jung (1958), belief was an attitude of mind, he felt man to be naturally religious, and

argued that this religious function was as powerful as the Freudian instinct for sex and aggression, and that every spiritual feeling, every mystical insight, every creative experience, comes from the collective unconscious. This religious experience Jung called a *Numinosum* (a word coined by the theologian Rudolph Otto, 1917). Indeed, Corbett (1999) has suggested that certain situations can also be summed up as numinous, filling the person with awe and wonder, being irresistibly attractive, allowing the person to effortlessly lose all track of time, providing joy, or removing all sense of self in a felt oneness with the world. These experiences, he argues, may occur in innumerable ways; listening to music, dancing, painting, weaving, watching children play, being in the wilderness, writing or cooking are only a few of them. When these experiences are numinous, Corbett argues that they are legitimate channels for spiritual experience, and regular participation in such an activity can be considered devotional or meditative. Yet he argues that such experiences are often ignored by Western religious culture, so that often they are not carried out with conscious reverence, in other words, people are unaware of the importance of these experiences/activities, considering only orthodox religious activities as religious in nature. Indeed, this criticism is also true of Jung, throughout his later works, as Jung began to believe that religious belief, however unorthodox, represented a supreme value, and became less able to conceive of this process in any other than religious terms (Storr, 1973). Nevertheless, Jung believed that every individual possesses an *a priori* 'religious instinct', an impulse for religion that is a psychic function, and that it is this instinct, which provides the occasion and the pattern for all his subsequent religious imagery and activities.

Secondly, Jung shows commitment to belief through an internal process via *the self*, and that of *individuation*, the final arbiter being the discovery of meaning. Another way of expressing this would be to say that the religious attitude, however it may be personally or socially realized, and irrespective of time or place, proceeds from the fact that deep within our unconscious lies an archetypal form of God which is deeply, and indelibly, engraved upon our psyche. Jung argues that this religious disposition functions as an internal activity of the psyche, which generates an energy unique to itself, which then comes forth from the collective unconscious, and manifests itself in the visible and multifarious phenomena of religion. Thus, this religious attitude is revealed as a collective attitude, in other words, it is recognised

as expressing an archetypal dimension that is intrinsic to human nature. Jung calls the process by which the individual integrates the conscious and unconscious parts of the personality the process of individuation. The concept of individuation (Jung, 1957; 1971; 1956) denotes not a state but a living and dynamic process by which a person becomes an "individual", i.e. a separate, indivisible unity or "whole."

For Jung, individuation is a 'coming to selfhood,' and thus the goal of individuation is the realization of the Self. The Self, in other words, must be conceived not just as the goal of individuation but also as its originating impulse, it is both result and agent. Individuation is thus innate to individuals, a natural law of the psyche, and is considered the component, and process, to which all human beings must devote themselves, albeit with differing degrees of success. Individuation seeks the union of opposites, which means assimilating or integrating into consciousness the various unconscious parts of the psyche. It is not just that the desire for individuation is archetypal, then, but that the archetypes themselves provide specific psychological information about how individuation is to be contained. This, Jung argues, is why philosophical and spiritual questions are asked about the meaning of life, and the purpose of existence. Individuation may be defined as religious because it is an archetypal process, and because any such orientation towards archetypes is religious. This conclusion follows directly from Jung's account of religious experience, where religious experience is named the 'numinous' experience by the individual of that aspect of his own psyche that is primordial, archetypal and collective. In this case, the archetypal desire for wholeness. It may also be construed that a religious and numinous process derives its religious quality solely from being a collective experience; it requires, in other words, a 'religious outlook on life' by demanding of the individuating self insight into their own psychic nature. Thus, a person perceives that his conscious ego is grounded on something that is deeper than, prior to, and more fundamental than his own distinct personality, and that his desire to become an integrated human being is at the same time an experience of the eternal and archetypal foundation of his own psychic being (Jung, 1921).

Thirdly, Jung considers commitment to belief as a libidinal process. Jung is here referring to the importance of the living reality of the psyche, which reveals its

own philosophical commitment. Jung argues that in order for a person to live happily, they need faith, hope, love and insight, and that these four highest achievements of human effort only come through experiences that require us to commit ourselves with our whole being, to resolve our doubts into a 'conformed belief,' and the energetic movement of the libido towards the deepest layer of the psyche, in which reside the universal and primordial images of the collective unconscious.

When Jung speaks of the act of ascribing meaning to something as a dynamic and psychically intense act, he is recalling his earlier theory of psychic energy. The relatively closed system of the psyche is characterized by the constant and dynamic movement of the libido. Although the libido itself is not observable, its course can be charted in terms of the 'value' being attributed in any given case. Values are 'quantitative estimates of energy,' so that for a person to place a high value on, say, a work of art is the same as saying that this art-object has been invested by him or her with a large amount of psychic energy. What has happened here is that psychical energy has been 'transformed' or 'canalized' into a particular cultural phenomenon, the value being attributed to it being directly calculable in terms of the intensity of its libidinal effect.

These symbolic images, whatever form they take, are thus the manifestation and expression of the libido, and the intensity of their effect derives directly from the energetic movement of the psyche, of the infusion of these images with libidinal power.

In summary, then, a religious experience is a numinous experience, and a numinous experience carries with it certain necessary psychic processes, and thus, supports the need for commitment within belief.

### **Commitment to Belief and positive mental-health outcomes: Jung's theoretical support**

Jung's ideas can be further applied to understand why beliefs may be specifically

related to better mental health. Jung (1958) suggested that all individuals strive for meaning, which gives our life purpose and a reason for existence, thus allowing our selves, and *the Self*, to grow and develop toward *individuation*, which in turn, allows for a mentally healthy outlook on life. Jung's recognition and delineation of the inner world of the psyche did not include a statement as to why a person was so constituted that what went on inside him was so often at variance with the external world that he could not find all his satisfactions therein. And it is this fact, which makes a person restlessly creative, searching for 'ideal' solutions, whether these are in the shape of scientific world-views, philosophies, religions or the integrative patterns of art, rather than a loss of the sense that there is any meaning in existence. Jung conceived that this mythological material had a positive function in giving meaning and significance to a person's existence.

However, if, according to Jung, we cannot find a strong enough belief, in which meaning is established, then this may be extremely damaging to our mental health. Indeed, meaning was fundamental to Jung's concept of the aetiology of neurosis since the recognition of meaning appears to have a curative power. 'A psychoneurosis must be understood, ultimately, as the suffering of a soul, which has not discovered its meaning,' he wrote (Jung, 1958, para. 497). The clinical picture of neurosis often contains the feeling of meaninglessness. This led Jung to refer metaphorically to a typical neurosis as a religious problem (1958), and states that, in the majority of cases the root cause of neurosis is connected with a loss of *meaning* and *worth*. Indeed, Sandner and Beebe (1982) see neurosis as springing from 'the tendency of the psyche to dissociate, or split, when faced with intolerable suffering. Wheelwright (1982) speaks of both neurosis and psychosis as 'nature's attempt to initiate growth and development', a view pursued in psychiatric research and experiment by Perry (1974, 1985). For Jung, then, it is not the presence of religion that is a symptom of neurosis but its absence. A psychoneurosis must be understood as the suffering of a human being who has not discovered what life means for him. For Jung this manifests itself by the individual having no love, but only sexuality; no faith, and having no belief structure by which to understand the world; no hope, leading to disillusionment in the world and life; and no understanding, leading to a lack of clarity in the meaning in life and existence (Jung, 1958).

Thus, because religion is a psychic function, as inseparable from the individual as any other instinct, any attempt to deny its significance will result in a loss of psychic equilibrium and thus a descent into neurosis. The religious experience is a numinous experience of the archetypal and eternal foundations of humanity itself, and to that extent it enables the individual to lift himself above his personal problems and to relate instead to the indestructible and primordial dimension of his own psychic being. It is not, therefore, the acceptance of belief that is psychologically damaging but its rejection. Therefore, Jung saw the embracing of beliefs as a positive outcome that could have positive effects on mental-health.

Therefore, it is suggested, in this thesis, that Jungian theory on belief can be used to inform modern psychology on the processes of underlying belief. Particularly whilst focussing on two areas of; (i) conceptualising a commitment to belief, and (ii) using commitment to belief to explain positive mental health effects. Therefore, whilst investigating positive effects and commitment of belief, Jungian theory will also be investigated in order to achieve theoretical guidance for the findings.

### **Main Statement relating to the Programme of Research**

It has been proposed, so far, that major considerations and overviews of belief tend towards viewing them as specific, independent beliefs; not as how and why belief, as a whole, functions as it does, but how specific beliefs are structured, formed or changed, and what psychological purpose these specific beliefs serve. Given this, it has been argued that there are 3 main reasons to think that the construct of belief would benefit from considering it as an overall theory of belief, instead of individual theories. Firstly, there is a lack of theoretical guidance within each specific theory on belief; secondly, all theories show common threads; and thirdly, a number of variables can be extracted, and examined more closely, in order to enable the investigation of an overall theory of belief. It has also been highlighted that theoretical guidance may be achieved by exploring Jungian concepts on the nature of beliefs. Therefore, there seems to be the opportunity to examine the concept of overall belief. This would facilitate the full examination of present limited findings,



themes, and speculations from the literature regarding an overall theory of belief to establish whether such a psychological construct can be measured, and that commitment to belief can be of psychological benefit. Chapters 2 and 3 will concentrate on the construction of a reliable and valid instrument of measurement and establishes the relationship between commitment to belief and better mental health. Chapters 4 and 5 will consider the measurement of commitment to belief within the context of Jungian theory. Chapter 6 will consider commitment to belief with measures of religiosity and spirituality by way of homage to Jungian writing on commitment to belief in religiosity and spirituality. Chapters 7 and 8 try to conceptualise and test many of the findings from Chapters 2-8 within a modern context using the more recent theoretical explanation of 'coping'. Finally, chapter 9 will present an overall discussion.

### **Implications in considering a commitment to belief: issues of measurement**

A further issue that needs to be considered within this research programme is that of measurement, in other words, how do we measure an underlying concept of belief? Within psychology there are generally two main streams of measuring constructs; qualitative methods and quantitative methods, which can lead to a multitude of research strategies seeking to separate out, or to integrate both, these aspects.

Qualitative research recognises a complex and dynamic social world. It involves researcher's active engagement with participants and acknowledges that understanding is constructed, and multiple realities exist (Bannister, Burman, Parker, Taylor, & Tindall, 1996). It is argued that qualitative methods are theory generating, inductive, aiming to gain valid knowledge and understanding by representing and illuminating the nature and quality of people's experiences. Here, participants are encouraged to speak for themselves, personal accounts are valued, and emergent issues within the accounts are attended to. The developing theory is, thus, firmly and richly grounded in personal experiences rather than a reflection of the researcher's *a priori* frameworks. In this way insight is gained to the meanings people attach to their experiencing. It would seem appropriate, then, when measuring a commitment to belief to consider this method as the best option for a research programme.

However, it was felt, by the researcher, to be an inappropriate methodology for two main reasons;

- (i) Because of the nature of research, i.e. considering an underlying construct of belief, in which to explain the positive effects on well-being within areas such as religion and luck, it was deemed necessary to fall *in line* with the generally accepted methodology within these areas, in other words quantitative.
- (ii) Because of point 1, and from what has been established so far in this thesis, that the research on beliefs is extensive, and in order to present an immediate valuable contribution to the literature, the research here needs to be able to be extrapolated easily to a number of populations using a number of theoretical perspectives. It was felt that qualitative research, tends to afford smaller samples, and seeking larger samples would be time-consuming (particularly within the time constraints of the present considerations) and would not enable such a contribution

Therefore, a quantitative programme of research was followed.

Within quantitative methodologies, psychometric measures of belief are substantial; however, these measures are designed to assess specific beliefs such as religion and luck, and cannot be used to measure an underlying commitment to belief. Therefore, it is necessary, within this thesis, to create a new psychometric measure in which to assess, and quantify the construct of belief. Thus, chapters 2 and 3 mainly focus on the creation and validation of this new scale.

Alongside the issues of research methodologies, however, other problems arise when attempting to measure the abstract construct of belief. First, a person's beliefs are sometimes considered to be extremely personal, and are not revealed easily. Therefore, this thesis needs to take account of this sensitive material when devising a suitable instrument of measurement. Second, the word 'belief' can have numerous constructed definitions for different people; for example, some individuals may consider belief to be only religious or spiritual, whereas other individuals may be aware of beliefs having a wider context, which includes many other

experiences/activities classified as ‘numinous’. Thus, the construction of a new scale must also consider this ambiguous connotation within its construction, allowing participants to reveal all their concepts of belief. Thirdly, it must be considered that, when measuring the *commitment* of a belief, in other words, if these beliefs are underlying or central to a person, i.e. internal, used in all situations, and have become part of the self, as well as their everyday life, then it may be difficult for individual’s to even consider them as actual beliefs. They may in fact be considered, for example, as part of their personality. Again, this issue needs to be addressed within the scale’s construction. These issues, then, will be considered and addressed more fully within chapters 2 and 3.

### **Aims of the following studies**

Notwithstanding the outline of the methodological stance; the main aim of the following studies was to examine a functional role of overall commitment to belief which argues (i) that a commitment to belief is important; (ii) that overall belief will be related to mental health and well-being<sup>4</sup>; and (iii) that it is the strength of belief in itself that is important and not the type of belief. Such consideration would include the development of an overall commitment to belief measure, and hypotheses derived from both Jungian theory and the research literature concerning belief. It was also a major aim of the studies to account for any alternative explanations of results found in support of an overall commitment to belief

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<sup>4</sup> It is of importance to highlight the point that this thesis will concentrate on an attempt to explain *positive* contributions to mental health, and will not address the issue of *negative* contributions. It could be argued that negative contributions are due to a weak commitment to belief, or alternatively, a wholly different theoretical context may be needed to address these effects. However, it is proposed that these issues would need a full programme of research in its own right, and thus, is not examined within this thesis.

## **CHAPTER TWO**

The Commitment to Belief Scale: Exploratory Factor Analysis and some  
initial consideration of Construct Validity

### Summary

Building on the theory of Jung, it was proposed, in chapter one, that three basic dimensions underlie the importance of belief; (i) that a *commitment* to belief is important (i.e. that it is internalised, and used within all situations within one's life, and is present across time); (ii) that the belief will be *related to mental health*, or *well being*; and (iii) that the *strength* of the belief in itself is important and *not* necessarily the *type* of belief.

To begin to explore these ideas, a measure of commitment to belief is developed and compared to measures of psychological well-being, personality and attribution style among 154 undergraduate students (52 men, 100 women). The measure was developed by adapting aspects of attribution style theory (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982), to measure internal, stable, and global aspects of belief; and Kelly's Construct theory (Kelly, 1955), to enable the issues of belief, mentioned in chapter one, to be addressed (i.e. to reduce ambiguous meanings of belief to individuals).

Reliability and validity is found for a measure that adapts personal construct theory and attribution style as a basis for measuring individuals' commitment to a set of beliefs. Exploratory factor analysis suggests both a one factor (overall commitment to belief) and a three factor model of commitment to belief (internal, global, and stable aspects of belief), in which both models are related to better psychological well-being, and largely fall outside personality space, and attribution style.

In summary the present findings suggest confidence in continuing to explore the commitment to belief construct, the relationship between commitment to belief and psychological well-being, and the relationship of commitment to belief to psychological theory.

## Introduction

The previous chapter has presented the view that belief is important to the well-being of the individual. In summary, the reviewed literature suggests the possibility of an overall theory of belief, where three basic dimensions underlie belief's functional role; (i) that a *commitment* to belief is important (i.e. that it is internalised, stable across time, and used within all situations within one's life); (ii) that the belief will be *related to mental health*, or *well-being*; and (iii) that the *strength* of the belief in itself is important and *not* necessarily the *type* of belief.

Thus, the concept of **commitment to belief** will concentrate on a theory applicable to understanding different types of belief and will be used to encompass a variety of belief, or possible outcomes. However, the research literature has, so far, tended to focus on the function of specific beliefs, such as religion, spirituality, conservatism, irrationality, rather than aspects of overall belief, and thus, at present, no psychometric test is available in which to measure this commitment to overall belief. Therefore, the psychometric development of a measure is needed in order to measure and take forward this presented theory of an overall commitment to belief.

## Underlying principles measuring commitment to belief

There are two main aspects to measuring commitment to belief. First, this measure must reflect core belief (beliefs that are highly important/central to the person), and must not be reliant upon one type of belief. Second, the measure must be able to measure the size of commitment within that belief (i.e. its strength of belief, whether it is evident within all aspects of one's life).

In addition to the above criteria, three further aspects should be considered.

- The scale must take account of the sensitive nature of the research. In order to facilitate a measure of beliefs that are central to the person (core), the scale

must allow for consideration that individual's beliefs can be extremely personal, and not easily revealed.

- The word 'belief' can have numerous constructed definitions for different people; for example, some individuals may consider belief to be only religious or spiritual. Thus, the scale must consider this ambiguous connotation within its construction.
- It must be considered that, if these beliefs are indeed central to the person, i.e. internal, used in all situations, and have become part of the self, as well as their everyday life, that it may be difficult for individual's to even consider them as actual beliefs. They may in fact be considered, for example, as part of their personality. Again, this issue needs to be addressed within the scale's construction.

### **Eliciting core beliefs using Personal Construct Theory**

A commitment to belief measure needs to be able to generate people's beliefs, and, indeed, to elicit that said individual's core beliefs (those central to the person), as well as taking into account their sensitive nature. However, beliefs can have numerous constructed definitions, and because of this, it is sometimes difficult to reveal the actual nature, or core, of belief. Beliefs are usually structured, and are not always easy to identify, and thus, not easy to measure. Even such beliefs as, for example, religion, are not as straight forward as the term suggests, indeed, religion has a plenitude of lesser beliefs, complexes, and behaviours. Therefore, in order to measure the actual core belief, it is necessary to consider methods that can bypass these complexities, and reach the actual belief. For this purpose, Kelly's Repertory Grid technique (Kelly, 1955) for eliciting individuals' construct systems, can be utilised. According to Kelly (1955), Constructs are the key concepts and values used by the individual to construe and organise their world, and regulate their lives and social relationships. Our personal frameworks, or construct systems, in Kelly's terms, are made up of a vast collection of

similarity-difference dimensions or bipolar constructs. Individuals uniquely, yet systematically, hierarchically network their constructs. Core or super-ordinate constructs are those that are central to our being, those that we use to impose personal order on our lives (Kelly, 1955). Each core construct subsumes a number of subordinate constructs, which in turn subsume more subordinate constructs, and so on. This theory, then, immediately suggests a way in which we can consider belief structures, and measure the core belief. Thus, this technique should allow direct access to the belief itself, by eliciting the individual's own belief system and not relying on numerous or insubstantial definitions for the word 'belief'.

### **Considering dimensions to belief, borrowing Attribution Theory**

To measure the individual's actual commitment to their beliefs, the different dimensions to belief needs to be considered (i.e. whether the belief is internalised, used within all situations within one's life, and is present across time), and can be facilitated by using aspects of Attribution Style Theory (outlined below) (Rotter, 1966; Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982; Kinderman, & Bentall, 1996). Indeed, authors, such as Jung (1933), and Allport (1966) have presented commitment as intrinsic to human nature, in other words, a person lives, and is part of, their beliefs, the influence of which, is evident in every aspect of their life, and throughout their life. This view is relevant to the present considerations as it emphasizes the importance that any measure must take account of, when measuring underlying belief. However, although authors within the literature agree upon this idea of commitment within certain contexts; e.g. intrinsic or internal religiosity (e.g. Allport, 1966; Jung, 1933), there is as yet no such scale with which to measure degrees of commitment to belief regardless of the type of beliefs respondents may have.

To begin the measurement of commitment to belief; it is worth noting the similarities between the dimensions of commitment to belief, as previously hypothesized, and aspects of the theory and measurement that underpins Attribution Style (Kinderman & Bentall, 1996; Peterson, *et al.*, 1982; Rotter, 1966). Attribution



style is a cognitive personality variable that can be defined as the way individuals interpret good and bad events (Abramson, Seligman, & Teasdale, 1978; Peterson, *et al.*, 1982). In essence, interpretations of good and bad events reflect the use of internal ('cause of events due to the individual') versus external ('cause of events due to other people or circumstances') attributions, stable ('cause of events persistent over time') versus unstable ('cause of events not persistent over time') attributions, and global ('cause of events persistent over time evidence in a variety of situations') versus specific ('cause of events specific to one situation') attributions (Peterson *et al.*, 1982). Attribution style has been used in a number of research contexts, however, its largest application has been in using a reformulated learned helplessness model to explain attribution style depression (Abramson *et al.*, 1978).

Although Attribution Style is not the target of measurement, the essence of the theory easily lends itself, for the purpose of measurement, to commitment of belief. To illustrate, an individual with a strong commitment to religious beliefs may believe that their religiosity is very personal to them (internal versus external), see religion playing a part in many, or all, areas of their life (global versus specific), and see their religiosity occurring over a long period of time (stable versus unstable).

Therefore, both Personal Construct theory and Attribution Style Theory can be utilised to operationalise the hypotheses regarding measuring core beliefs and a commitment to them. Using Personal Construct theory will also allow beliefs to be considered with sensitivity, to allow individuals to use their own frame of reference, and be used as a tool to reveal individual beliefs.

### **Initial consideration of construct validity**

When considering Jung's arguments on the importance of belief, the new Commitment to Belief scale assumes that strong beliefs are beneficial to mental health. Indeed, support for this assumption is also provided by a series of specific beliefs being related to psychological well-being, particularly anxiety, depression and self-esteem, in religion

(Baker & Gorsuch, 1982; Bergin, 1983; Genia, 1996; Genia & Shaw, 1991; Koenig, 1995; Maltby & Day, 2000; Maltby, Lewis, & Day, 1999; Park, Cohen, & Herb, 1990), spirituality (Carson, Soekin, & Grimm, 1988; Klein, Kupfer, & Shea, 1993; Seligman, 1990; Thoreson, 1999), and belief in good luck (Darke & Freedman, 1997; Day, Maltby, & MacAskill, 1999; Taylor & Brown, 1988). However, these research findings are related only to a specific belief, and cannot be generalised to all beliefs. This, again, highlights the important need to develop a reliable and valid measure of core beliefs (regardless of the specifics of the belief) that will; (i) measure all underlying core belief (beliefs that are central to the person), and must not be reliant upon one type of belief; (ii) be able to measure the size of commitment within that belief (i.e. its strength of belief, whether it is evident within all aspects of one's life); and (iii) be considered alongside measures of health and well-being. Therefore, to be certain that the Commitment to Belief scale is in fact measuring all these things (e.g. for the purposes of construct validity), it would be expected, that there would be significant negative correlations between the Commitment to Belief scale and anxiety and depression and a positive significant correlation between the Commitment to Belief scale and self-esteem.

When considering construct validity, another issue to be considered here is that, if beliefs are indeed central to the person, i.e. internal, used in all situations, and have become part of the self, as well as their everyday life, it may indeed be difficult for individual's to even consider them as actual beliefs. Researchers may argue, in fact, that it could be merely considered as part of their personality. It is important, then, to demonstrate that a measure of core beliefs is not simply assessing personality, but that it is indeed measuring an underlying principle of commitment. Therefore, for the purposes of construct validity only, personality factors will be explored using the simple measure of Eysenck's 3-factor model (extraversion, neuroticism, psychoticism). It is expected that the Commitment to Belief scale will have no significant correlation with these personality variables.

In addition, because the Commitment to Belief scale has adopted certain aspects of attribution style theory, it would be prudent to explore commitment to belief in

relationship to the Attribution Style Questionnaire (Peterson, et al., 1982), in order to provide further evidence of discriminant, and therefore, construct validity for the new commitment to belief measure. It is, therefore, expected that the Commitment to Belief scale will not be congruent to aspects of attribution.

### **Aim of the Study**

The aim of the present study was to develop a Commitment to Belief scale. It is expected that; higher scores on the scale should be positively related to better psychological well-being, should not be related to personality factor, and, given the use of attribution style concepts to develop the scale, should not be related to attribution style.

### **Method**

#### Participants

154 undergraduate students (52 men, 100 women) of ages 18 to 51 years (Mean=23.12; SD=7.04) were administered the Commitment to Belief scale and a number of other questionnaires.

#### Questionnaires

##### *The Commitment to Belief Scale*

There are two stages to the development of the questionnaire. First is the elicitation of the super-ordinate constructs (beliefs central to the person), using Kelly's Repertory Grid technique (Kelly, 1955). The second is the measurement of the commitment to those beliefs, adapting aspects of Attribution Style theory (Abramson, Seligman, & Teasdale, 1978; Day & Maltby, 2000; Kinderman & Bentall, 1996; Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982).

*1. Elicitation of the beliefs – construct theory*

(i) In order to perform Kelly's Repertory Grid technique (Kelly, 1955), a number of initial elements are required (elements are anything that give rise to construing, so as to enable the generation of constructs, e.g. the elements of 'car' will generate such constructs as 'ability to get from a to b', 'financial stability', 'status symbol', 'trustworthy' etc). In creating the Commitment to Belief scale, these elements were achieved by extracting attitudinal words or statements, that pertained to attitude theory formation and research, (attitudes: as a tendency; as evaluative; as cognitive, affective and behavioural; as objects; as representations; as functional; as self-perceiving; as self-identifying; as attitude strength) derived from a number of theoretical books (Eagle & Chaiken, 1993; Ajzen, 1996). These elements were designed to trigger belief like constructs. 34 attitudinal words or statements were believed to be appropriate for use. Raters (N=5) then sought to condense the list to a workable level by checking for duplications and inappropriate questions. Finally, a list of 18 attitudinal statements was agreed upon, and written into full instructional sentences.

A full list of the 18 attitudinal sentences are shown below (attitudinal statements are shown in bold):

1. Write down a belief, or attitude that you have that you **feel** strongly about.
2. Write down a belief, or attitude that you have that you are very **closed** about, i.e. something that is very **private** to you, that you are **secretive** about.
3. Write down a strong belief, or attitude that you have about, or within, your **profession**.
4. Write down a belief, or attitude that you have that you are **proud** of.
5. Write down a belief, or attitude that you have that you feel is personally **useful** or **beneficial** to you.
6. Write down a belief, or attitude that you have that **motivates** you in your life.
7. Write down a belief, or attitude that you **care about deeply**.
8. Write down something that you feel is **important**.

9. Write down an attitude or belief that you have that you feel **hinders** you in some way.
10. Write down something that you feel that you **need** in your life.
11. Write down something that you **desire** in your life.
12. Write down something that you feel is important in **relationships**.
13. Write down a belief, or attitude that you have that you are **guided by** in your life.
14. Write down a belief, or attitude that you **aspire** to.
15. Write down a belief, or attitude that you have that you would like to **enhance**.
16. Write down a belief, or attitude that you have that you would like to **improve**.
17. Write down a belief, or attitude that you have that could be considered as **harmful** to your personal growth.
18. Write down a belief, or attitude that you feel is particularly **healthy** or **good for you**.

(ii) The aim of the questionnaire was to elicit as many beliefs as possible from the respondents. The generating of seven beliefs was decided upon, this number was arbitrary; however, from pilot studies (N=5) using the questionnaire, it was suggested that these were as many beliefs as respondents could generate within an appropriate timeframe (approximately 45-60 minutes).

(iii) The repertory grid method of eliciting constructs suggests that 3 constructs should be compared in order to provide a super-ordinate construct, i.e. those constructs that should be central to the person (Kelly, 1955). As such, the 18-attitudinal statements (feel, private, profession, proud, beneficial, motivates, care about deeply, important, hinders, need, desire, relationships, guided by, aspire to, enhance, improve, harmful, healthy or good for you), developed in step (i) above, were considered too many for the participants to contend with, however, all raters felt that these above statements were appropriate. Thus, it was decided that 7 out of the 18 statements should be given to participants (thus producing 7 beliefs – see point (ii) above). Furthermore, because raters had felt that all statements were appropriate, each 7 statements should be taken randomly from the existing 18. Therefore, each of the 7 statements was chosen, and the

order with which they should be administered to each participant was decided, by using a random number programme.

(iv) Within repertory grid techniques, the task is for participants to identify certain constructs, in this case, to identify their belief constructs. This is done by giving them three elements (attitude statements) and asking them in what way two of the three are similar to each other and different from the third. Here, the three elements were chosen randomly via random numbers. This procedure was then repeated seven times, in order to achieve 7 beliefs. As previously mentioned, carrying out this task seven times was arbitrary, but it was decided that this would be ample in which to create enough belief constructs for the purpose.

(v) The purpose of the Commitment to Belief scale is to gain access to people's individual beliefs, thus it is important to make sure that the constructs that were generated in step (iv) above are indeed endorsed by the respondents, and that they are committed to these beliefs. To ensure this, then, as with Kelly's repertory technique, respondents were asked to take each construct that had been generated and to write down its opposite. They were then asked to identify which of the two alternatives they believe was desirable to them. Kelly (1955) believes that the desirable construct signifies the direction of the construct, i.e. it is the desired element that is measured, for the example with 'car', a desired construct would be that the car presents the correct status symbol, as opposed to not. Hence, with the Commitment to Belief scale, the desirable construct is considered to be a core belief generated by the participant, and it is these 7 desirable constructs that are used in the remainder of the scale, which is concerned with the level of commitment to these said beliefs.

### *2. Assessing the level of commitment – adapting Attribution Style.*

In order to measure a commitment around the internal, stable and global properties to belief, a format similar to all Attribution Style Questionnaires was employed, but with some differences.

The Attribution Style Questionnaire (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982) asks respondents to think of the most likely causal explanation for 6 positive and 6 negative situations. The respondent is then required to categorise these causes as being either internal versus external (something to do with the respondent, or due to others), global versus specific (something which happens in all situations, or in just this situation), or stable versus unstable (something which always happens, or never happens). The original attribution style questionnaire considers these assessments as naturally bi-polar, however, for the purposes of the theoretical rationale of this study, it was more appropriate to separate these scales out. In other words, the present research aims to measure the strength of commitment – how internal, stable, or global a belief construct is, and not whether a person sees it as internal or external etc. Thus, among the present hypotheses of commitment to beliefs, these are not bi-polar constructs.<sup>1</sup> Therefore, 3 scales were used, Internal, Global and Stable. Thus, the Internal, Global, and Stable scales were included to measure commitment to belief. However, one further amendment was made to this scale to make it applicable for measuring commitment to beliefs, that is, to change the wording of the ratings scale. The rating scales were amended to;

1. 'The construct is very personal to me' to measure an Internal dimension
2. 'In the future, the construct is something I will continue to believe in' to measure a Stable dimension
3. 'This construct is applicable to many aspects of my life' to measure a Global dimension

Once respondents had obtained their desirable super-ordinate constructs, they were then asked to categorise these constructs on each of the three dimensions using a 7-point scale (1=Strongly disagree, through 7=Strongly agree). Those respondents

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<sup>1</sup> There is also recent evidence to suggest that attribution style itself is not necessarily bi-polar and should also be separated out (Kinderman & Bentall, 1996; Day & Maltby, 1999)

answering “Strongly Agree” to the scales of “Internal”, “Stable”, and “Global” would then be construed as possessing strong central, or core, beliefs.

Thus, an example of a respondent completing the two parts of the Commitment to Belief scale is laid out below:

**Step one:**

For this step respondents would be working with the statements attached on a separate blue sheet. An example of these statements would be; (1) Write down a belief, or attitude, that you have that you would like to *improve*; (2) Write down a belief, or attitude, that you have that you feel is particularly *healthy* or *good for you*; (3) Write down something that you feel that you *need* in your life; (4) Write down a belief, or attitude, that you have that you are *guided by*, in your life; (5) Write down a belief, or attitude, that you *care about deeply*; (6) Write down an attitude, or belief, that you have that you feel *hinders you* in some way; and (7) Write down a belief, or attitude, that you have that you *feel* strongly about.

Respondents were then asked to answer each question in numerical order, writing them on a separate pink sheet provided. Given the personal nature of these constructs, respondents were allowed to retain this sheet at the end (only the super-ordinate constructs are recorded on the questionnaire).

Thus, the pink sheet may provide answers as outlined below (using the 7 questions mentioned above);

1. Caring for others
2. Honesty
3. Happiness
4. Being successful
5. Communication
6. Competition
7. Honesty



It is worth noting here (as seen in the diagram above) that it is possible for a respondent to give the same answer more than once. One assumption brought forward with this measure is that it is important to measure commitment to belief, not specific beliefs. Subsequently, it could be argued that the duplication of a construct in this step is the result of the construct being very important to the individual's belief. Therefore, it is this author's recommendation that if a construct is repeated it should be retained, as its inclusion more than once is simply reflecting an emphasis of this construct to the individual's belief. To alter it, or ask respondents to search for another construct may weaken the accurate measurement of what constructs are important to the individual.

### **Step 2:**

For this step respondents would need their answers from **step 1** (pink sheet) and a yellow sheet provided with 7 sequences of 3 numbers.

An example of the yellow sheet is shown below:

1.	2	6	1
2.	4	5	7
3.	3	4	6
4.	1	4	7
5.	3	4	2
6.	7	3	1
7.	3	5	6

These numbers correspond to different sequences of the answers written down on the pink sheet. The respondents were then asked the following;

- Using **only** the first sequence of numbers, respondents were asked to look at each of the 3 answers that correspond to the first number sequence (so for the example sheet above, the first sequence was 2, 6, 1, respondents would be looking at their answers to questions 2, 6, and 1 **only**).
- Now respondents were asked to think about these 3 answers. For the respondent, one answer would be different from the other two in some way. Respondents wrote this difference down in the ‘**Construct**’ part of the **Number sequence 1** (respondents were informed not to get too worried about this – to just put down the first thing that springs to mind – if they could not think of one word to describe the difference, then they could use a sentence that describes it).
- Then, using the construct they had written down, respondents were asked to write down next to it what, to them, is its opposite meaning (again, respondents were informed that if they could not think of one word to describe the difference, then to use a sentence that describes it).
- The respondents were then asked to mark the construct that is most desirable to them.

To alleviate any problems, respondents were given the example below.

### Example

If the sequence of numbers were 1, 2, 3. My answers may have been

1. Open mindedness
2. Being in control
3. Perfection.

For me 2 and 3 are 'Rigid', and number 1 is 'Flexible'. So, I would decide that the different construct is 'Flexible' and decide its opposite is 'Rigid'.

**I would then write in the workbook**

### Example Sequence

## Construct Flexible

## It's Opposite Rigid

### Step 3:

Next, using only the ‘desirable construct’ from **step 2**, respondents were asked to complete the attribution style type scales for ‘**number sequence 1**’ **only**. Here, respondents had to decide whether the ‘desirable construct’ was something personal to them, whether it is something that will persist across time and whether the construct is something that affects all situations in their life. For this, respondents were asked to circle either; 1=Strongly disagree, 2=Disagree, 3=Slightly disagree, 4=Not certain, 5=Slightly agree, 6=Agree, and 7=Strongly agree.

### Step 4:

Now respondents were asked to complete **steps 2 and 3** for each of the remaining 6 number sequences given. Completing each scale, which corresponded to each sequence. See Appendix 1 for a full copy of the questionnaire.

*Other measures administered*

- (i) The General Health Questionnaire (Goldberg & Williams, 1991). This scale contains four sub-scales that measure aspects of general health. Each of these sub-scales comprise 7-item measures of; depressive symptoms (e.g. 'Felt that life is entirely hopeless' [item 23]); anxiety symptoms (e.g. 'Been getting scared or panicky for no good reason' [item 12]); social dysfunction (e.g. 'Been taking longer over the things you do' [item 16]); and somatic symptoms (e.g. 'Been feeling run down and out of sorts' [item 3]). Scores are recorded on a four point response format, from 0 = 'Better than usual', 2 = 'Same as usual', 3 = 'Worse than usual', through 4 = 'Much worse than usual'. The scale demonstrates satisfactory reliability and validity across a number of samples (Goldberg & Williams, 1991).
- (ii) The 12-item general self-esteem sub-scale of the Self-Description Questionnaire III (Marsh, 1990). This scale is modified from the original, Rosenberg self-esteem scale (Rosenberg, 1965) and is designed for use among adolescents. However, a number of reports on the reliability and validity of the scale (Hunter & Stringer, 1993; Maltby, 1995; Maltby, Lewis, & Day, 1999) suggest confidence in using the scale among the present sample. Higher scores on this variable indicate a higher level of self-esteem.
- (iii) The Abbreviated form of the Short-form of the Revised Eysenck Personality Questionnaire (Francis, Brown, & Philipchalk, 1992). This shorter measure of the Eysenck Personality dimensions is a psychometric equivalent to its revised parent form. The questionnaire contains 6-item measures of extraversion, neuroticism, psychoticism, and lie scores. The scale has been

subject to exploratory and confirmatory factor analyses that suggests the unidimensionality of the four EPQR-A subscales of extraversion, neuroticism, psychoticism, and the lie scale (Forrest, Lewis & Shevlin, 2000). Further construct validity can be found for this version of the Eysenck Personality Questionnaire in terms of predicted relationships with psychological well-being, affect, religiosity, cognitive tasks, and sex roles (Chang, 1997; Cooper & Taylor, 1999; Francis & Bolger, 1997; Lewis & Maltby, 1995; Shevlin, Bailey & Adamson, 2002).

- (iv) The Attributional Style Questionnaire (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982). Measurement of attribution style centres around individuals generating causes for a number of good (e.g. 'You get a raise' [item 12]) and bad (e.g. 'A friend comes to you with a problem and you don't try to help' [item 4]) events, and then rating the cause along a 7-point response format corresponding to internal, stable and global attributions. However, Peterson et al., (1982) reports low reliability statistics for the sub-scales of the questionnaire. Nevertheless, the scale has since been expanded (Peterson & Villanova, 1988) and there has been further discussion around further shortened versions (Peterson, 1991; Whitley, 1991;). Further, two recent papers make suggestions regarding how the measurement of attribution style might be improved (Day & Maltby, 2000; Kinderman & Bentall, 1996). Thus, the Attribution Style Questionnaire, incorporating suggestions made by Kinderman and Bentall (1996) and Day and Maltby (2000) was used. In this version, the completed instructions preceding the questionnaire were retained, but the opposing dimensions were separated out; (1) Totally due to me, (2) Totally due to others, (3) Totally due to other circumstances, (4) Always present, (5) Never present, (6) Just this situation and (7) All situations. Further a 7-point response format was retained with available responses ranging from (1) Strongly agree, (2) agree, (3) Slightly agree, (4) Not Certain, (5) Slightly disagree, (6) Disagree and (7) Strongly

disagree. Day and Maltby (2000) report satisfactory reliability and validity of this amended scale.

## **Results**

Psychometric theory suggests that items of a scale should be examined for possible response bias (Kline, 1986). Subsequently responses to all the items of the Commitment to Belief scale were examined to ensure all available response categories were used by respondents and skewness statistics were computed to ensure none of the items showed a skew of above + or – 1 (Cohen, 1988). Table 2.1 (over leaf) demonstrates that when answering the Commitment to Belief Scale, respondents used all available response categories and the general responses to each item were not skewed.

**Table 2.1:** Frequency of responses to each category of the response format for each item in the Commitment to Belief Scale and skewness statistics for each item.

Frequency of responses to each category of the response format in the Commitment to Belief Scale (see key below)								
Item	1	2	3	4	5	6	7	Skew
Internal 1	40	31	23	10	11	17	22	.483
Internal 2	16	32	24	21	14	21	26	.156
Internal 3	15	40	18	24	13	20	24	.240
Internal 4	36	39	22	12	7	14	24	.597
Internal 5	17	27	30	16	26	16	22	.150
Internal 6	17	24	32	24	19	15	23	.205
Internal 7	40	34	13	15	11	15	26	.423
Stable 1	12	39	14	26	18	24	21	.104
Stable 2	17	33	24	27	9	25	19	.231
Stable 3	52	23	17	13	14	17	18	.485
Stable 4	27	25	18	18	31	25	10	.018
Stable 5	22	21	28	32	19	13	19	.205
Stable 6	36	27	21	17	11	22	20	.311
Stable 7	9	27	32	16	29	26	15	.032
Global 1	18	16	34	27	19	17	23	.102
Global 2	36	29	27	12	10	17	23	.440
Global 3	15	31	21	24	23	19	21	.104
Global 4	17	29	19	32	18	18	21	.131
Global 5	37	34	18	15	9	17	24	.441
Global 6	26	30	16	24	18	19	21	.169
Global 7	14	37	14	26	19	19	25	.112

Key: 1=Strongly Disagree; 2=Disagree; 3=Slightly Disagree; 4=Not Certain; 5=Slightly Agree; 6=Agree; 7=Strongly Agree.

Table 2.2 shows alpha coefficients for all the items on the Commitment to Belief scale (Cronbach, 1951). The alpha coefficients for the scale are above 0.7, suggesting

internal reliability for each factor (internal, stable, global) of the Commitment to Belief scale; and shows overall internal reliability ( $\alpha=.9187$ ). This suggests that all 3 factors (internal, stable, global) perform well together, leading to the suggestion of a one-factor model – that of commitment to belief. However, the Item to Total column shows that the internal commitment in sequence 7 is low (0.26).

**Table 2.2:** Alpha coefficients for all items on the Commitment to Belief scale

Scale	Inter-item r's	Item to Total
Internal (sequence1)	0.9135	0.6464
Stable (sequence 1)	0.9160	0.5176
Global (sequence 1)	0.9148	0.5775
Internal (sequence 2)	0.9125	0.6905
Stable (sequence 2)	0.9143	0.6036
Global (sequence 2)	0.9146	0.5842
Internal (sequence 3)	0.9122	0.7002
Stable (sequence 3)	0.9151	0.5627
Global (sequence 3)	0.9151	0.5630
Internal (sequence 4)	0.9127	0.6813
Stable (sequence 4)	0.9128	0.6760
Global (sequence 4)	0.9142	0.6028
Internal (sequence 5)	0.9134	0.6531
Stable (sequence 5)	0.9136	0.6367
Global (sequence 5)	0.9158	0.5284
Internal (sequence 6)	0.9137	0.6306
Stable (sequence 6)	0.9139	0.6217
Global (sequence 6)	0.9137	0.6386
Internal (sequence 7)	0.9339	0.2593
Stable (sequence 7)	0.9142	0.6035
Global (sequence 7)	0.9145	0.5907
N of Cases = 128		Alpha = .9187



Further examination of the Commitment to Belief scale can be achieved by exploring the factor structure of the scale. Given the suggested one-factor (component) model as indicated by the high alpha reliability statistic, table 2.3 shows a principal component analysis (Harman, 1967) with unrotated solution. Similarly to the item-to-total correlations, all loading on component 1 are above .4, with the exception of one (Internal seq, 7.). Thus, suggesting that all items, bar one, are salient to the unrotated component.

Table 2.3: Principal components analysis with unrotated solution

	Component		
	1	2	3
Internal (seq. 1)	<b>0.68</b>	-0.41	0.28
Stable (seq. 1)	<b>0.57</b>	-0.09	-0.46
Global (seq. 1)	<b>0.61</b>	0.35	0.18
Internal (seq. 2)	<b>0.73</b>	-0.30	0.29
Stable (seq. 2)	<b>0.66</b>	-0.12	-0.47
Global (seq. 2)	<b>0.63</b>	0.51	0.11
Internal (seq. 3)	<b>0.74</b>	-0.36	0.25
Stable (seq. 3)	<b>0.62</b>	-0.09	-0.36
Global (seq. 3)	<b>0.61</b>	0.44	-0.02
Internal (seq. 4)	<b>0.73</b>	-0.33	0.19
Stable (seq. 4)	<b>0.73</b>	-0.05	-0.37
Global (seq.4)	<b>0.66</b>	0.47	0.12
Internal (seq. 5)	<b>0.71</b>	-0.27	0.22
Stable (seq. 5)	<b>0.70</b>	-0.02	-0.39
Global (seq. 5)	<b>0.59</b>	0.51	0.09
Internal (seq. 6)	<b>0.66</b>	-0.34	0.34
Stable (seq. 6)	<b>0.68</b>	-0.07	-0.35
Global (seq. 6)	<b>0.68</b>	0.37	0.16
Internal (seq. 7)	0.29	-0.21	0.39
Stable (seq. 7)	<b>0.66</b>	-0.19	-0.32
Global (seq. 7)	<b>0.64</b>	0.36	0.26

However, the next stage of the analysis was to rotate the items to simple structure.

Table 2.4 shows the eigenvalues for all the items on the Commitment to Belief scale.

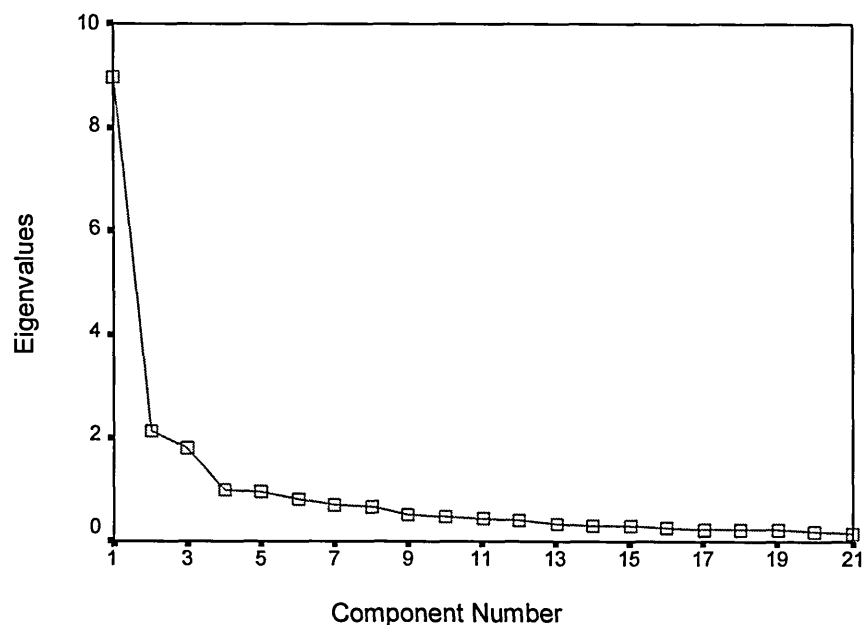
Child (1969) suggests that all eigenvalues above 1.00 are of importance for extraction.

Table 2.4: Eigenvalues for all items above 1.00 for the Commitment to Belief scale

Component	Total	% of Variance	Cumulative %
1	8.99	42.79	42.79
2	2.12	10.09	52.89
3	1.81	08.63	61.52

Also Cattell (1966) suggest the Scree Test may be a better indicator of the number of factors to be extracted, with the number of factors extracted determined by the number of points above the point at which the Scree begins to level out.

Figure 2.1: Scree Test showing the performance of Eigenvalues



As can be seen from table 2.4 and the Scree test (Figure. 2.1), results suggest that three components are to be extracted.

**Table 2.5:** Extracted method of Principal component analysis with oblimin rotation (extraction method) for the three factors.

	Component		
	1	2	3
Internal (seq. 1)	<b>0.79</b>	-0.06	-0.15
Stable (seq. 1)	-0.04	-0.03	<b>-0.76</b>
Global (seq. 1)	0.10	<b>0.69</b>	0.02
Internal (seq. 2)	<b>0.75</b>	0.08	-0.12
Stable (seq. 2)	0.03	-0.02	<b>-0.83</b>
Global (seq. 2)	-0.06	<b>0.84</b>	-0.09
Internal (seq. 3)	<b>0.77</b>	0.07	-0.19
Stable (seq. 3)	0.05	0.04	<b>-0.69</b>
Global (seq. 3)	-0.11	<b>0.71</b>	-0.16
Internal (seq. 4)	<b>0.69</b>	0.01	-0.24
Stable (seq. 4)	0.05	0.12	<b>-0.73</b>
Global (seq.4)	-0.01	<b>0.81</b>	-0.02
Internal (seq. 5)	<b>0.65</b>	0.08	-0.18
Stable (seq. 5)	0.01	0.13	<b>-0.73</b>
Global (seq. 5)	-0.09	<b>0.81</b>	-0.01
Internal (seq. 6)	<b>0.79</b>	0.04	-0.05
Stable (seq. 6)	0.06	0.09	<b>-0.69</b>
Global (seq. 6)	0.11	<b>0.72</b>	-0.02
Internal (seq. 7)	<b>0.56</b>	0.04	0.21
Stable (seq. 7)	-0.17	-0.04	<b>-0.69</b>
Global (seq. 7)	0.18	<b>0.73</b>	0.09

As can be seen in table 2.5, rotating to simple structure using oblique direct oblimin rotation (Jenrich and Sampson, 1966) suggests that the first component contains one

item, that of internal belief (sequence 1, 2, 3, 4, 5, 6, and 7). The second component contains one item, that of stable belief (sequence 1, 2, 3, 4, 5, 6, and 7). The third component contains one item, that of global belief (sequence 1, 2, 3, 4, 5, 6, and 7). This gives strong support for a three-factor (component) model. Therefore, it seems prudent to carry out all subsequent analysis using both 1-factor and 3-factor models.

Subsequently, items from the Commitment to Belief Scale were computed into four scales for the analysis. All items were used to compute an overall score measuring Commitment to Belief ('Commitment to Belief' [CTB]); and three subscales were computed representing the 3-factor model; Internal, Stable and Global. Additionally, to examine for possible overall response bias for these four scales, skewness statistics were computed. All of the four scales did not demonstrate skew by being outside +1 or -1 (Commitment to Belief, skew=.635; Internal, skew=.703; Stable, skew=.328; Global, skew=.432).

Table 2.6 (overleaf) shows the mean scores, by sex, and an independent samples t-test for all the scales. Women score significantly higher than men on the measures of self-esteem, extraversion, and social desirability. Men score significantly higher than women on the measures of depression, internal attributions, and psychoticism.

**Table 2.6:** Mean scores (Standard Deviations) by sex, and Independent Samples t-test for total sample, for all the scales (\* $p < 0.05$ ; \*\*  $p < 0.01$ )

Scale	Men (N=52)	Women(N=100)	t
1. Somatic symptoms	02.00 (01.83)	01.95 (02.08)	0.13
2. Anxiety	01.64 (01.79)	02.29 (05.19)	- 0.76
3. Social dysfunction	01.14 (01.73)	00.89 (01.54)	1.67
4. Depression	01.56 (01.98)	00.83 (01.46)	2.25*
5. Internal Attributions	43.34 (14.99)	37.15 (11.43)	2.43*
6. Stable Attributions	50.37 (14.55)	49.13 (12.35)	0.47
7. Global Attributions	53.75 (15.20)	52.56 (12.24)	0.44
8. Self-Esteem	28.26 (08.79)	31.08 (05.97)	- 2.05*
9. Neuroticism	04.26 (05.46)	03.35 (02.38)	1.26
10. Extraversion	03.31 (02.19)	04.62 (02.38)	- 2.86*
11. Psychoticism	02.92 (01.63)	01.76 (01.69)	3.49**
12. Lie Scale	01.54 (01.50)	02.32 (01.74)	- 2.38*
13. Optimism	19.58 (05.99)	20.38 (04.35)	- 0.82
14. Internal Belief	24.38 (12.18)	22.38 (10.86)	0.95
15. Stable Belief	24.71 (11.08)	25.04 (09.52)	- 0.17
16. Global Belief	25.76 (10.92)	26.26 (09.52)	- 0.27
17. Commitment to Belief	74.84 (28.32)	73.68 (24.79)	0.24

Table 2.7 (overleaf) shows the Pearson product moment correlations computed between internal, stable, and global beliefs, overall commitment to belief, age and the psychological well-being scales. The table shows internal, stable, and global beliefs are all significantly related to each other, as well as overall commitment to beliefs. Also, that scoring higher on internal and global beliefs, and overall commitment is significantly associated with age. Overall commitment to beliefs, and internal, stable, and global beliefs, are significantly associated to self-esteem, and significantly negatively associated with somatic symptoms, anxiety, social dysfunction and depression.

**Table 2.7:** Pearson product-moment correlation coefficients between internal, stable, and global beliefs, overall commitment to beliefs, age and psychological well-being measures.

	OC	INT	STA	GL	SE	SS	ANX	SD	DEP	AGE
1.OC	100									
2.INT	.84**	1.00								
3.STA	.84**	.54**	1.00							
4.GL	.81**	.49**	.55**	1.00						
5.SE	.36**	.25**	.36**	.32**	1.00					
6.SS	-.33**	-.29**	-.31**	-.24**	-.31**	1.00				
7.ANX	-.22*	-.21*	-.18*	-.14	-.15	.30**	1.00			
8.SD	-.30**	-.22*	-.28**	-.28**	-.51**	.43**	.28**	1.00		
9.DEP	-.36**	-.28**	-.32**	-.32**	-.59**	.39**	.16	.72**	1.00	
10.AGE	.23**	.23**	.15	.19*	.15	-.14	-.11	-.06	-.02	1.00

\*p<.05, \*\*p<.01

**Key:** OC=Overall Commitment to Beliefs: INT=Internal Beliefs: STA=Stable Beliefs:

GL=Global Beliefs: SE=Self-Esteem: SS=Somatic Symptoms: ANX=Anxiety: SD=Social Dysfunction: DEP=Depression: AGE=Age.

Table 2.8 (overleaf) shows the Pearson product moment correlation coefficients computed between internal, stable, and global beliefs, overall commitment and attribution and personality. The table shows that no significant relationship is found between overall commitment to beliefs, internal, stable, and global beliefs, and personality and stable and global attributions. A significant association is found between overall commitment to beliefs, and internal beliefs and internal attribution.

**Table 2.8:** Pearson product-moment correlation coefficients between structure of beliefs, commitment, age and attribution and personality

	OC	INT	STA	GL	N	EXT	PSY	LIE	IA	SA	GA
1.OC	1.00										
2.INT	.84**	1.00									
3.STA	.84**	.54**	1.00								
4.GL	.81**	.49**	.55**	1.00							
5.N	-.04	-.02	-.03	-.05	1.00						
6.EXT	-.06	-.12	-.06	.04	-.18	1.00					
7.PSY	.03	.05	.08	-.06	.14	.07	1.00				
8.LIE	-.04	-.08	.12	-.03	.13	.02	.02	1.00			
9.IA	.19*	.22*	.10	.18	-.03	-.16	-.04	-.09	1.00		
10.SA	-.02	-.13	.01	.08	-.01	.04	-.32**	.12	.48**	1.00	
11.GA	.01	-.12	.05	.11	-.06	-.05	-.31**	-.03	.45**	.75**	1.00

\*  $p < 0.05$ ; \*\*  $p < 0.01$

**Key:** OC=Overall Commitment to Beliefs: INT=Internal Beliefs: STA=Stable Beliefs:  
GL=Global Beliefs: N=Neuroticism: EXT=Extraversion: PSY=Psychoticism: LIE=Lie Scale:  
IA:Internal Attribution: SA=Stable Attribution: GA=Global Attribution.

## Discussion

The aim of this chapter was to develop a psychometric measure that would take into account a commitment to belief, and its effects on mental health and well-being. The scale should (i) measure all underlying core belief (beliefs that are central to the person), and must not be reliant upon one type of belief; (ii) be able to measure the size of commitment within that belief (i.e. its strength of belief, whether it is evident within all aspects of one's life); and (iii) be considered alongside measures of health and well-being.

Firstly, the reliability statistics give some information on how the scales are functioning within the present sample. It is generally accepted that a reliability statistic

of above 0.7 is satisfactory for multi-item scales (Kline, 1986). As all reliability statistics for each factor (internal, stable, and global) of the Commitment to Belief scale are above 0.7 this suggests that all the scales are demonstrating satisfactory internal reliability among the present sample. However, the internal commitment within sequence 7 is low. This may simply be due to the present sample, however, it may suggest that by sequence 7, all core beliefs have been extracted and the seventh sequence is unnecessary. However, it may also suggest that the respondents have, by this time, become despondent, or bored, of the task. Table 1, showing overall internal reliability ( $\alpha=.9187$ ) suggests that all 3 factors (internal, stable, and global) perform well together.

This is further supported by a principal components analysis that suggests a 1 factor and 3-factor model can be used. Both these interpretations are consistent with the theoretical model presented, that there is a 1-factor model, an overall commitment to belief that is fundamental to the effects of belief, i.e. it is the core belief that is important. Also, the principal component suggested a 3-factor model, showing the important elements to belief, i.e. that to become committed to a belief you must have all 3 elements – internal, stable, and global. As support is found for both models, and considering that the development of the scale is in its early stages, it seems prudent to proceed with research using both solutions, and examine the scale structure using confirmatory factor analysis at a later stage.

In terms of exploring the wider context of the Commitment to Belief scale, a number of findings emerge which have implications for the scales' construct validity.

Comparisons of mean scores on the scale suggest that there is no significant difference in scores between men and women. Given the intended individual difference nature of the scale (rather than sex differences) and no a-priori suggestion of sex differences in commitment to belief, this finding supports the construct validity of the scale. There is some evidence of a significant positive correlation between a higher level of commitment to beliefs and age, among overall scores on the Commitment to Belief scale (and two of the subscales, internal commitment and global commitment). In



finding these relationships, some support is found within Jungian theory, regarding the process of individuation (Jung, 1963), in which individuals are thought to develop a higher commitment to their beliefs as they move toward self-fulfilment later in life. However, the significant positive relationship between age and commitment to beliefs may simply reflect that, as individuals get older, they may develop less flexibility in beliefs and, thus, stronger commitment to their beliefs. Notwithstanding this debate, these speculations warrant further research, particularly as the present sample comprised students rather than a full age range.

In terms of the Commitment to Belief scale and its relationship to psychological well-being and health, commitment to belief (both for overall scores on the Commitment to Belief Scale, and internal, stable, and global factors of belief) is significantly associated with higher self-esteem, lower depression, lower anxiety, lower levels of somatic symptoms and a lower level of social dysfunction (with one exception, global commitment to belief is not significantly associated with anxiety). Though these correlations are small, with significant correlations accounting for between 3% and 13% of the variance, the present findings suggest some general support for the theory that a commitment to belief will result in better psychological well-being.

In terms of establishing the scales validity outside personality space, the Commitment to Belief scale is found to be largely located outside Eysenck's theory of personality, and the cognitive personality variable of attribution style, with no significant relationships between overall and subscale scores on the Commitment to Belief scale and neuroticism, psychoticism, extraversion (and social desirability, identified by way of Lie scores), and stable and global attributions. However, a significant relationship is found between internal attribution style and internal commitment to belief (which also accounts for the significant relationship between internal attribution style and overall scores on the Commitment to Belief scale). This relationship accounts for no more than 5% of the relationship, however, it suggests that internal commitment to belief may not be separate from internal attributions. It may be expected that an internal commitment to beliefs, shares a small relationship to the use of internal attribution to explain good

and bad events, as a person who is internally focussed may apply personal values to a number of situations. However, if this is the case, we might also expect the other aspects of commitment to belief (global, stable) to be related to their theoretical attribution style counterpart. Whether internal aspects of commitment to belief, are different to the other aspects of the Commitment to Belief scale needs further investigation, and as such this post-hoc hypothesising would be better furnished with further empirical investigation.

Notwithstanding, the present findings show some initial support for a commitment to belief construct, and its measurement through the Commitment to Belief scale. Therefore, there is some confidence in using a measure that uses personal construct theory and attribution style as a basis for measuring individuals' commitment to a set of beliefs. Exploratory factor analysis suggests a one factor and three-factor model of commitment to belief, in which both models are related to better psychological well-being, and is not related to personality and attribution style. In summary, the present findings suggest confidence in continuing to explore the commitment to belief construct, the relationship between commitment to belief and psychological well-being, and the relationship of commitment to belief to psychological theory.

## **CHAPTER THREE**

The Commitment to Belief Scale: Further consideration and exploration  
of reliability and validity

## Summary

Chapter two involves the development of the Commitment to Belief Scale (CTB). Chapter three involves 6 studies aimed to further explore the scale, and to provide further validity and reliability for its use.

For this purpose, chapter three is divided into three parts. Part one regards the administration of the scale, concentrating on; the generation of personal constructs (studies 1 and 2); and the use of attitudinal constructs to examine commitment to beliefs (study 3). In study one, frequency tables show that 23 undergraduate students rated the importance of constructs generated by the Commitment to Belief scale as 'quite a lot' to 'very much so', thus suggesting that these generated constructs are actually 'central' to the person. In study two, findings show significant positive relationships with constructs generated by the scale and attitudes of good luck and religion, thus constructs generated are reflective of the attitudes of the person. In order for a further validation check to be made, as to whether constructs generated by the scale are, in fact, representative of a person's beliefs, participants in study three were asked to rate the applicability of the beliefs generated. Findings show significant positive correlations with internal beliefs on the Commitment to Belief scale and the statement 'My beliefs are very personal to me', with stable beliefs and the statement 'My beliefs are something that will persist through time', and with global beliefs and the statement 'My beliefs are important to all aspects of my life'. Thus part one presents findings to suggest that the constructs people are producing, from the scale, are important and relevant.

Part two involves further exploration of the reliability and factor structure of the Commitment to Belief scale as a one or three factor model (study 4) and whether scores on the Commitment to Belief scale are consistent over time (study 5). For study four, replication of findings in chapter two, using exploratory factor analysis, was not confirmed, and, in fact, points towards a 1-factor model; however, confirmatory factor analysis suggests neither model is prominent. In study five 16 undergraduate students are re-administered the Commitment to Belief scale after a period of 4 months, findings support for test - re-test validity

Part three investigates an aspect of the construct validity of the scale by examining the Commitment to Belief scale's relationship with measures of irrational and just world beliefs (study 6). Here, from a sample of 128 undergraduate students, findings suggest no association with the Commitment to Belief scale and the 11-item Irrational Beliefs scale (Watson, Vassar, Plemel, Herder & Manifold, 1990), and the Just World scale (Rubin & Peplau, 1975), and it is suggested that findings provide further construct validity for the scale.

## Introduction

The findings in the previous chapter present some initial support for a Commitment to Belief scale, which uses adaptations of personal construct theory and attribution style as a basis for measuring individuals' commitment to a set of beliefs.

Exploratory factor analysis suggests one factor (an overall commitment to belief) and three factor models (internal, global, and stable aspects to belief) of commitment to belief, in which both models are related to better psychological well-being, and largely falls outside personality space, and attribution style. In summary, the findings so far, suggest confidence in continuing to explore the commitment to belief construct, the relationship between commitment to belief and psychological well-being, and the relationship of commitment to belief to psychological theory.

However, although a scale has now been developed in order to enable investigations of positive effects on mental health, it was considered necessary to investigate the scale, itself, a little deeper in order to build confidence in its use. Thus, the purpose of chapter three is to carry out a series of small studies aimed to further establish reliability and validity of the Commitment to Belief scale, as well as further consideration to a one or three factor model.

Therefore, in order to further explore this new concept, there are a number of research questions that can be suggested in regards to the use, and confidence, of the Commitment to Belief scale. These research questions can be largely split into three main parts,

- (i) Part one: research questions related to examining the validity and usefulness of the constructs generated by the Commitment to Belief scale.
- (ii) Part two: further exploration of the Commitment to Belief scale's factor structure and reliability
- (iii) Part three: how scores on the Commitment to Belief scale are related to other psychological variables reflecting underlying beliefs.

Considerations of reliability and validity will be considered within all three parts.

**PART ONE:**  
**VALIDITY AND USEFULNESS OF THE CONSTRUCTS GENERATED FOR**  
**THE COMMITMENT TO BELIEF SCALE.**

Research questions related to the administration of the scale.

Part one involves a series of three small studies, each aimed to address a specific research question. All the following three research questions are generated from the aims of the scale, concentrating first on the generation of personal constructs to the use of attitudinal constructs to examine commitment to belief.

**STUDY ONE**

**Are the constructs, generated by the Commitment to Belief scale, central to the person?**

The first research question is related to the generation of constructs within the scale. It has been argued in the previous chapter that, in order to measure commitment to belief, the Commitment to Belief scale must reflect core beliefs, i.e. beliefs that are central to the person. As such, as Kelly (1955) argued that constructs are the key concepts and values used by the individual to construe and organise their world, the methodology of the Commitment to Belief scale is designed to generate significant constructs using personal construct theory. However, although personal construct theory is an established methodology for generating constructs, in the Commitment to Belief scale, parts of this methodology have been adapted for its own purposes. It is, therefore, necessary to expand the exploration of this method. Thus, as the generation of important constructs, or constructs that are central to the person, are crucial to the theory of commitment to beliefs, it is prudent to examine whether the constructs generated by the participants during the administration of the Commitment to Belief scale are, in fact, representative of the individual participants' belief systems, and are, indeed, important, or central, to the individual.

## Method

### Participants

23 undergraduate volunteer students (9 male, 14 female) of ages 18 to 51 years (Mean = 29.1; SD=11.1) were administered the Commitment to Belief scale.

### Procedure

After completion of the scale, participants were asked to consider the constructs they had generated, and to examine whether these constructs were actually representative of their belief systems, and if so, how important, or central, were these beliefs to them. For this purpose, they were asked to rate on a 5-point scale the importance of those beliefs, 1=not at all; 2=a little; 3=somewhat; 4=quite a lot; 5=very much so.

## Results

To allow comparisons with future research, the means and standard deviations by sex for internal, stable, global beliefs, and overall commitment to belief are given in table 3.1. No sex differences were found.

Table 3.1: Mean Scores for internal, stable, global beliefs, and overall commitment to belief by sex

Scale	Men	Women	<i>t</i>
Internal Beliefs	24.56 (10.5)	30.69 (12.9)	-1.18
Stable Beliefs	26.44 (12.0)	28.85 (13.3)	-0.43
Global Beliefs	31.00 (11.2)	30.38 (11.2)	0.13
Overall Commitment	82.00 (14.7)	89.92 (30.4)	-0.72

Table 3.2 shows a frequency table of how participants rated their beliefs. It can be seen clearly that most people are rating the constructs generated at 4 or 5, with only 2



people rating at 3, and only 2 people rating one construct at below 2. The table also shows the average mean scores, which gives the lowest score of 2.86, and the highest score is 5.00. Therefore, the Commitment to Belief scale is allowing participants to measure commitment to belief generally at least 'somewhat'. Further, the average rating across respondents is no less than 4, suggesting that, on average, each construct means 'quite a lot'. Therefore, the Commitment to Belief scale can be said to be successfully generating the constructs that are central to the individual.

**Table 3.2:** Frequency table showing ratings for each construct generated, and means for each construct and for each individual overall mean score.

	Frequencies of ratings for each construct generated							Person's Mean Score
	Construct1	Construct2	Construct3	Construct4	Construct5	Construct6	Construct7	
Each Persons Ratings given for each construct; 1=not at all; through 5=very much so	4	5	3	4	5	4	4	4.14
	2	2	3	3	4	4	2	2.86
	5	1	5	3	4	2	5	3.57
	4	4	4	4	4	4	4	4.00
	5	2	4	4	4	4	4	3.86
	5	5	5	5	5	5	5	5.00
	5	5	5	5	5	5	5	5.00
	5	5	5	5	5	5	5	5.00
	5	5	5	5	5	5	5	5.00
	5	5	5	5	5	5	5	5.00
	5	5	5	5	5	5	5	5.00
	5	5	5	5	5	5	5	5.00
	5	5	5	5	5	5	5	5.00
	5	5	5	5	5	5	5	5.00
	5	5	5	5	5	5	5	5.00
	4	4	4	4	4	4	4	4.00
	4	4	4	4	4	4	4	4.00
	5	5	5	5	5	5	5	5.00
	4	4	4	4	4	4	4	4.00
	5	5	5	5	5	5	5	5.00
	4	4	4	4	4	4	4	4.00
	3	3	3	3	3	3	3	3.00
	5	5	5	5	5	5	5	5.00
Construct Mean	4.48	4.22	4.43	4.39	4.52	4.39	4.43	

## Discussion

The first research question to be addressed is whether the constructs generated by the Commitment to Belief scale are in fact central to the person.

Because the Commitment to Belief scale is attempting to measure how the underlying construct of belief is functioning in itself, and not how a manifested, or specific, belief (such as religion) functions, it was important to realise whether the scale was in fact drawing on this underlying (or central) belief construct. In order to draw on these beliefs, the development of the scale involved the use of aspects of Kelly's Construct theory (1955), and attribution theory (Kinderman & Bentall, 1996; Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982; Rotter, 1966). It was decided that the best way to check whether the scale had, indeed, achieved this purpose, was to simply ask the participants. Here, participants rated the importance of the belief constructs (that they had generated) as 'quite a lot' to 'very much so', and thus, suggesting evidence that the scale is in fact measuring what it is supposed to be measuring.

However, it must be remembered that 23 participants is a small sample, by any means, and, although it suggests confidence in the scale, replication of these findings within a larger sample would give greater satisfaction to answering this research question.

Nevertheless study one adds greater confidence in the usefulness of the Commitment to Belief scale.

## STUDY TWO

**Are the constructs generated by the Commitment to Belief scale related to general attitude sets?**

The second research question, in this section, is also related to the generation of constructs. The Commitment to Belief scale involves the measurement of beliefs, and

it has been argued that these beliefs should be apparent within all aspects of their life (i.e. showing commitment to those said beliefs). Therefore, of further interest, is whether the constructs generated during the administration of the Commitment to Belief scale are, indeed, reflecting the general attitude sets of the individual. Thus, for example, we would expect a religious individual to generate religious constructs, a conservative individual to generate constructs that are conservative in nature, etc. Therefore, there is an opportunity to compare constructs generated for the Commitment to Belief scale against scores on a number of measures of attitudes.

For the purpose of this investigation, then, it was decided that only general attitude sets would be necessary. There are a multitude of attitudes and beliefs, however, within the literature, there are considered to be general attitude sets, that ‘umbrella’ many smaller, or lesser, attitudes. This is a point made vehemently by Wilson (1973a; 1973b; 1985) in the measurement of conservatism, in which he argues that most dimensions can be captured within the measurement of conservatism-versus-liberalism. Present day studies also support this view (Henningham, 1996; Lewis & Maltby, 2000; Maltby, 1997). However, it would also be prudent to extend the present consideration beyond just the measurement of conservatism. In order to do this, 4 measures (conservatism; irrational beliefs; religious orientation; and luck) with themes that regularly appear within the psychological literature (specifically within the literature dealing with individual differences, within the 1990’s), were deemed appropriate; although length of administration time for respondents also informed the decision of the number of scales used.

The aim of the present study was to see whether the constructs generated within the Commitment to Belief scale reflected general attitude sets of respondents.

## **Method**

### Participants

97 undergraduate students (20 men, 75 women, and 2 unidentified) of ages 18 to 44 (mean=21.8, SD=5.6) were administered the Commitment to Belief scale.

### Procedure

After participants had completed the Commitment to Belief scale, these completed questionnaires were then given to three separate individuals for assessment (See Appendix 2 for a copy of the assessment sheet). These people were asked to look at each completed questionnaire, and consider the constructs that each participant had generated. They were then asked to decide on the nature of these constructs, on whether the participant had generated a religious construct, a luck construct, a conservative construct, or an irrational beliefs construct, or, indeed, none of these. For example, the construct 'religious' would obviously be rated as a religious attitude; the construct 'ability to change' could be rated as an opposite of the conservatism attitude, etc. These decisions, then would allow a comparison between the type of constructs generated by each individual questionnaire and their scores on other attitude scales. For this purpose, only the Belief in Good Luck Scale, the 'Age-Universal' I-E Scale, the 12-item measure of social conservatism, and the 11-item Irrational Beliefs scale were used. Other scales present in the original study presented in chapter two were considered inappropriate, as they can be considered as personality style measures, and therefore, not representative of 'beliefs'.

The decisions made by each rater, i.e. as to whether a belief construct was conservative in nature, etc, was down to each individual rater's own opinions. These decisions were then pooled, and only constructs that had been rated with the same attitude, from all three raters, were taken forward for analysis. However, in order to give some guidance as to the meanings of each attitude set, a brief description of each was presented to the raters, as shown on the next page.

### **DESCRIPTIONS OF ATTITUDE SETS**

RELIGION – divided into 3 dimensions: *Intrinsic* (where individuals are described as living their religious beliefs, the influence of which is evident in every aspect of their life); *Extrinsic-Personal* (individuals look to religion for comfort, relief, and protection, and using religious practices, such as prayer, for peace and happiness); and *Extrinsic-Social* (individuals look to church for making friends, creating social status, and being part of an in-group).

IRRATIONAL BELIEFS – evaluative cognitions, as internal and stable factors, couched in the form of rigid, dogmatic, and absolute musts, shoulds, have to's, got to's, and oughts.

CONSERVATISM – attitudes which include; religious fundamentalism, pro-established politics, advocacy of strict rules and punishment, militarism, intolerance of minority groups, conventional tastes in art or clothing, restrictions on sexual activity, opposition to scientific progression, and the tendency to be superstitious.

LUCK – a belief in fate, or a higher power that influences the outcome of events; considered as either bad luck or good luck.

### **Questionnaires**

1. The Commitment to Belief Questionnaire: see Chapter two for full description of this.
2. The Belief in Good Luck Scale (Darke & Freedman, 1997b). This scale contains 12-items (e.g. 'I consider myself to be a lucky person') and responses are scored on a 6-point scale anchored by 'strongly disagree' and 'strongly agree'. The scale demonstrates satisfactory reliability and validity across a number of samples (Darke & Freedman, 1997; Day, Maltby, & Macaskill, 1999; Day & Maltby, in press).
3. The 11-item Irrational Beliefs Scale (Watson, Vassar, Plemel, Herder & Manifold, 1990). The scale is derived from a previous well-used measure of irrational beliefs (MacDonald & Games, 1972), but uses simplified language to measure irrational beliefs. Examples of the scale's items include 'I feel it is a catastrophe when things are not the way I would very much like them to be'

[item 4] and ‘I am often upset over other people’s problems’ [item 10].

Responses to items on the Irrational Beliefs scale are scored on a five-point response format (1=Strongly Disagree, through to 5=Strongly Agree). Possible respondents scores range from 11 to 55, with higher scores indicating a higher degree of irrational beliefs. Though reports on this version of a measure of irrational beliefs are limited, available evidence suggests the scale represents one factor among non-clinical samples (Mahoney, 1997; Maltby & Day, 2001).

4. The 12-item measure of social conservatism Questionnaire (Henningham, 1996). The scale is modified from the original 50-item Wilson-Patterson Conservatism Scale (1968), with some item changes and amendments. Henningham (1996), Maltby (1997), and Maltby, Day and Edge (1997) have reported that scores on the scale show a good internal reliability and correlate significantly with other measures of political attitude and behaviours, and fits well within Wilson’s (1973) full descriptions of conservatism (Maltby, 1997).
  
5. A measure of intrinsic and extrinsic orientation towards religion. Respondents were administered the ‘Age-Universal’ I-E Scale – 12 (Gorsuch & Venable, 1983; Maltby, 1999), which is a derived, revised, and amended measure of the Religious Orientation Scale (Allport & Ross, 1967). Since the inception of the Religious Orientation Scale, a number of suggestions have been made to improve psychometric confidence in the measurement of the intrinsic and extrinsic religious constructs. Suggestions have included item changes, changes in response format, and scoring methods (Gorsuch & McPherson, 1989; Gorsuch & Venable, 1983; King & Hunt, 1969; Kirkpatrick, 1989; Leong & Zachar, 1990; Maltby & Lewis, 1996). In the main, consideration of such changes suggest that the intrinsic orientation is a constant feature of religious orientation, while an extrinsic orientation towards religion represents two separate factors; extrinsic-social and extrinsic-personal. The present scale administered is a 12-item ‘Age-Universal’ version of the Religious Orientation Scale (Gorsuch & Venable, 1983) that adopts items suggested by Gorsuch and McPherson (1989) and changes to the response format (Maltby & Lewis, 1996). Maltby (1999) reports, among 300 USA, English and Irish adults, a psychometric confidence in combining these suggestions to measure intrinsic

orientation towards religion (6-items), an extrinsic-personal orientation towards religion (3-items) and an extrinsic-social orientation towards religion (3-items).

## Results

To allow comparisons with future research, the means and standard deviations by sex for internal, stable, global beliefs, and overall commitment to belief are given in table 3.3. No sex differences were found.

Table 3.3: Mean Scores for internal, stable, global beliefs, and overall commitment to belief by sex

Scale	Men	Women	<i>t</i>
Internal Beliefs	19.38 (06.1)	18.79 (06.9)	0.31
Stable Beliefs	24.69 (09.1)	22.87 (06.1)	0.96
Global Beliefs	23.81 (07.5)	24.67 (08.2)	-0.38
Overall Commitment	67.88 (17.8)	66.33 (14.3)	0.37

All individual ratings (from the three raters) were added together and considered for internal reliability. Table 3.4 shows alpha coefficients for all ratings for constructs of luck, conservatism, religion, and irrational beliefs (Cronbach, 1951). The alpha coefficients for both belief in good luck and religion were above 0.7, suggesting satisfactory internal reliability for each rater's opinions of constructs. The alpha coefficient for conservatism was, however, less reliable at 0.5188. These types of attitudes, however, may be more difficult to identify, as conservatism is thought to subsume a number of other belief sets; i.e. attitude of religion or just world beliefs. Finally, the ratings for irrational beliefs were dropped as no rater had identified any of the constructs generated as those of irrational beliefs.

**Table 3.4:** Inter-rater reliability for all ratings for constructs of luck, religion, and conservatism.

Construct	$\alpha$
Luck	.8969
Religion	.7074
Conservatism	.5188

Pearson product-moment correlation coefficients were then computed between each rating's total (all three raters totalled together) for the three constructs of luck, religion, and conservatism, and their corresponding attitude scale (the Belief in Good Luck scale, Darke & Freedman, 1997b; the 'Age-Universal' I-E Scale, Gorsuch & Venable, 1983; Maltby, 1999; and the 12-item measure of social conservatism, Henningham, 1996). Significant positive relationships were obtained for ratings of constructs on luck, and total scores on the Belief in Good Luck scale ( $r=.352$ ,  $p<.01$ ); and ratings of constructs on religion and intrinsic religion ( $r=.280$ ,  $p<.01$ ) and extrinsic personal religion ( $r=.266$ ,  $p<.01$ ). No significant relationships were found between ratings of constructs on religion and extrinsic social religion ( $r=.113$ ,  $p>.05$ ) and ratings of conservatism and total scores on the 12-item measure of social conservatism ( $r=-.102$ ,  $p>.05$ ).

## Discussion

The second research question to be addressed is whether the constructs generated by the Commitment to Belief scale are related to the general attitude sets of the participants.

Because the Commitment to Belief scale is involved in measuring beliefs that are central to the person, and thus, should be apparent within all aspects of a person's life (commitment), it was important to realise whether the scale was in fact drawing on belief constructs that reflected a person's everyday attitudes. Therefore, the number of constructs generated should be correlated to their general attitude sets.



Findings show that significant positive relationships were obtained for ratings of constructs on luck (generated by the Commitment to Belief scale), and total scores on the Belief in Good Luck scale; also significant positive correlations were found for ratings of constructs on religion, intrinsic religion, and extrinsic-personal religion (generated by the scale), and appropriate scores on the Age-Universal I-E scale.

This suggests, then, that some validity can be assumed for the Commitment to Belief scale, as constructs generated of a lucky or religious (intrinsic, extrinsic personal) nature can be compared to responses on the corresponding general attitude scales. However, this cannot be seen for those of conservatism and extrinsic-social religion. Such findings do not support the construct validity sought in this study, but however there are some reflections to be made on the findings.

With the benefit of hindsight, it can be argued, that one of the reasons for selecting conservatism as a criterion, may indeed be the reason for the lack of correlation. When considering conservatism, as a validity construct, it may not be as straight forward as first thought, as the descriptions used by respondents could be interpreted into different attitude styles. For instance, descriptions of conservatism could easily be considered as a just world belief (e.g. the construct “idealism”), or as a religious belief (e.g. “morality”). This lack of clarity may be reflected in the low reliability of rater scores. Therefore, future research testing the validity of the Commitment to Belief Scale, in this way, may seek to be more specific in the attitude sets chosen to test (e.g. attitudes towards money) to ensure that the measurement of all the constructs are clear, not only to respondents but also, to raters.

Notwithstanding these speculations, there is some evidence to show that the constructs generated by the Commitment to Belief scale are related to general attitude sets, and therefore, the constructs generated in the scale may reflect individual’s wider beliefs; though further research is needed using a variety of attitude sets to provide further confidence in the scale.

## STUDY THREE

**The Commitment to Belief scale should be related to general statements regarding individual's commitment to belief:**

The third research question further relates to respondents' ratings of constructs in terms of how committed they are to their beliefs. As such, from adding together responses to whether constructs generated by the scale reflect something about themselves, persist across time and is something that affects all situations in life, a commitment to belief score is calculated. In order for a further validation check to be made, as to whether these ratings are, indeed, representative of the depth of their belief, scores can be examined against other reports by the individual that relate to statements regarding the commitment to their beliefs. In other words, does the respondent agree that the constructs generated are indeed representative of their said beliefs.

### Method

#### Participants

This study was carried out using the original data set of 154 undergraduate students (52 men, 100 women, of ages 18 to 51) presented in chapter two. Of these, 20 pieces of data were returned incomplete, and will not be included in the final analysis.

#### Procedure

After completion of the Commitment to Belief scale, respondents were then asked to rate their generated constructs as to the applicability to their personal beliefs via a short measure. This short measure was designed to offer general statements on belief which are rated on a 5-point scale, from (1)=Disagree Strongly, through (5)=Agree Strongly. Statements include (i) 'My beliefs are very personal to me'; (ii) 'My beliefs are something that will persist through time'; and (iii) 'My beliefs are important to all

aspects of my life'. These broad statements are designed to reflect the general hypotheses of commitment to belief, and are not computed into a scale.

## Results

To allow comparisons with future research, the means and standard deviations by sex for internal, stable, global beliefs, and overall commitment to belief, and all three belief statements are given in table 3.5. No sex differences were found.

Table 3.5: Mean Scores for internal, stable, global beliefs, and overall commitment to belief, and all three belief statements by sex

Scale	Men	Women	<i>t</i>
Internal Beliefs	24.38 (12.2)	22.38 (10.9)	0.95
Stable Beliefs	24.71 (25.0)	25.04 (09.5)	-0.17
Global Beliefs	25.76 (10.9)	26.26 (09.5)	-0.27
Overall Commitment	74.84 (28.3)	73.68 (24.8)	0.24
Belief Statement 1	02.89 (01.3)	03.89 (01.2)	-4.57
Belief Statement 2	02.53 (01.1)	02.35 (00.9)	0.99
Belief Statement 3	02.48 (01.0)	02.32 (00.9)	0.89

Pearson product moment correlations were computed for each of the three aspects of internal, stable, and global beliefs from the Commitment to Belief scale, and the three broad statements of belief. Significant positive correlations were found for internal beliefs on the Commitment to Belief scale and the first statement 'My beliefs are very personal to me' ( $r=.413$ ,  $p<.01$ ); for stable beliefs on the Commitment to Belief scale and the second statement 'My beliefs are something that will persist through time' ( $r=.458$ ,  $p<.01$ ); and for global beliefs on the Commitment to Belief scale and the third statement 'My beliefs are important to all aspects of my life' ( $r=.381$ ,  $p<.01$ ).

## **Discussion**

The third research question was a further validation check as to whether belief constructs generated by the Commitment to Belief scale were actually beliefs that participants agreed were very important to them.

Therefore, it was considered that the belief constructs generated, and rated as internal, stable and global should relate to general statements made by the participants regarding their individual commitment.

Findings show that significant positive relationships were obtained for each of the three aspects of internal, stable, and global beliefs from the Commitment to Belief scale, and the three broad statements of belief ('My beliefs are very personal to me'; 'My beliefs are something that will persist through time'; and 'My beliefs are important to all aspects of my life') respectively.

The three Commitment to Belief scale dimensions (of internal, stable, and global), then, demonstrate significant correlations to the broad likert-scale type statements of belief, and as such, must suggest further confirmation that the constructs generated are applicable to respondents' said beliefs, and, therefore, demonstrates further validity.

**PART TWO:**  
**FURTHER EXAMINATION OF THE INTERNAL STRUCTURE OF THE  
COMMITMENT TO BELIEF SCALE**

**STUDY FOUR**

**Does the Commitment to Belief Scale measure a one factor or three factor model?**

The previous chapter's findings suggested that both a 1-factor and 3-factor model of the Commitment to Belief scale could be used. And, indeed, both these interpretations are consistent with the theoretical models proposed; first, that the 1-factor model demonstrates an overall commitment to belief as fundamental to the effects of belief, i.e. it is the core belief that is important; and second, that a 3-factor model shows the important elements to belief, i.e. that to become committed to a belief you must have all 3 elements – internal, stable, and global. Therefore, as support was found for both models, it seems prudent to further examine the scale's structure by replicating the exploratory factor analysis with another sample, and, if necessary by using confirmatory factor analysis, in order to identify whether a 1-factor, or 3-factor model is more appropriate.

**Method**

176 undergraduate students at Sheffield Hallam University (65 males, 111 females) aged between 18 and 58 years (Mean=28.9, SD=10.4) were administered the Commitment to Belief Scale (see chapter 2 for full details). These respondents are the same sample that is reported in Chapter 6 and 8 of this thesis.

**Results**

Cohen (1969) suggests that all eigenvalues above 1.00 are of importance for

extraction, therefore, Table 3.6 shows only those Eigenvalues performing for all the items on the Commitment to Belief scale, that achieve this criteria. Thus, the table suggests that a three-factor model, of internal, stable, and global aspects to commitment to belief is still possible. A Scree test (Cattell, 1966) also suggests that three components should be extracted.

Table 3.6: Eigenvalues for all items above 1.00 for the Commitment to Belief scale

Component	Total	% of Variance	Cumulative %
1	10.99	52.19	52.19
2	1.76	8.39	60.58
3	1.15	5.49	66.07

Given the consideration of a one-factor or three-factor model, a principal components analysis with unrotated solution, with three components extracted, was performed. Table 3.7 shows all numbers within component 1 are above .4, components 2 and 3 were not relevant. Thus, suggesting that all items are salient to that one component, and all load together to produce a one-factor model of overall commitment to belief.

Table 3.7: Principal components analysis with unrotated solution

	Component 1
Internal (sequence1)	.74
Stable (sequence 1)	.66
Global (sequence 1)	.71
Internal (sequence 2)	.76
Stable (sequence 2)	.65
Global (sequence 2)	.63
Internal (sequence 3)	.74
Stable (sequence 3)	.66
Global (sequence 3)	.66
Internal (sequence 4)	.76
Stable (sequence 4)	.77
Global (sequence 4)	.74
Internal (sequence 5)	.74
Stable (sequence 5)	.78
Global (sequence 5)	.79
Internal (sequence 6)	.79
Stable (sequence 6)	.65
Global (sequence 6)	.60
Internal (sequence 7)	.77
Stable (sequence 7)	.74
Global (sequence 7)	.77

As can be seen in table 3.8, when rotating to simple structure using oblique direct oblomin rotation (Jenrich & Sampson, 1966) that the items load above .4 on the first factor. Therefore, giving strong support for the one-factor model.

**Table 3.8:** Extracted method of Principal component analysis with oblimin rotation (extraction method) for the three factors.

	Component		
	1	2	3
Internal (seq.1)	0.22	-0.69	-0.07
Stable (seq.1)	0.85	-0.04	-0.08
Global (seq. 1)	0.71	-0.12	0.05
Internal (seq. 2)	-0.13	-0.87	0.13
Stable (seq. 2)	0.26	-0.15	0.40
Global (seq. 2)	0.15	-0.02	0.64
Internal (seq. 3)	0.11	-0.89	-0.17
Stable (seq. 3)	0.76	-0.04	0.05
Global (seq. 3)	0.64	0.16	0.38
Internal (seq. 4)	-0.06	-0.75	0.20
Stable (seq. 4)	0.37	-0.11	0.48
Global (seq. 4)	0.26	-0.04	0.65
Internal (seq. 5)	-0.09	-0.77	0.19
Stable (seq. 5)	0.63	-0.28	0.03
Global (seq. 5)	0.27	-0.45	0.23
Internal (seq. 6)	-0.06	-0.88	0.09
Stable (seq. 6)	0.03	-0.14	0.65
Global (seq. 6)	-0.14	-0.05	0.87
Internal (seq. 7)	0.20	-0.82	-0.15
Stable (seq. 7)	0.42	-0.26	0.22
Global (seq. 7)	0.36	-0.23	0.35

Thus, findings for the replication of exploratory factor analysis demonstrates a leaning towards a one-factor model, however, the original exploratory factor analysis (see chapter 2) demonstrates a leaning toward a three-factor model. Therefore, findings are confusing, and give no clear indication of which factor structure is of best fit. Therefore, to provide further understanding, confirmatory factor analysis was performed.



The models were analysed using PRELIS and LISREL 8. The following LISREL analysis was assessed on the co-variance matrices. PRELIS analysis was used to assess the univariate and multivariate normality of the measured variables. Kurtosis statistics to assess univariate and multivariate normality were all non-significant. The model parameters were estimated using LISREL 8. Co-variances were all found to be less than 1 and none of the negative error variances were found to be approaching zero, suggesting the parameters were free within the subsequent analysis.

Table 3.9 shows the goodness of fit statistics reported for each of the models. Using cut-off criteria of .95 for the ML based statistics (TLI, IFI, CFI), .08 for SRMR and .06 for RMSEA (Hu & Bentler, 1999), neither of the models demonstrates a goodness of fit.

**Table 3.9:** Good fit statistics for 1 and 3 factor models of the Commitment to Belief Scale.

	$\chi^2$	SRMR	RMSEA	GFI	AGFI	PGFI	NFI	TLI (NNFI)	CFI	IFI (BL89)
1-factor model	1321.15	.09	.19	.56	.47	.46	.61	.60	.64	.65
3-factor model	1032.07	.07	.15	.66	.58	.53	.70	.70	.73	.74

## Discussion

Study four involved further exploration as to whether the Commitment to Belief scale contains a one or three factor model.

The findings in chapter two suggested that both a 1-factor and 3-factor model of the Commitment to Belief scale could be used, and, indeed, both these interpretations are consistent with the theoretical models proposed; i.e. a 1-factor

model demonstrates an overall commitment to belief; and a 3-factor model shows three important aspects of belief (internal, stable, and global).

Therefore, as support was found for both models, it seemed prudent to further examine the scale structure by, firstly, replicating the exploratory factor analysis, and, if necessary by using confirmatory factor analysis, in order to identify which model presented the best fit.

However, when attempting to replicate findings in chapter two (by using exploratory factor analysis), findings were directed towards a one-factor model, rather than a suggestion that both models were appropriate. Further, when confirmatory factor analysis was performed, neither model seemed to present best fit.

Therefore, findings here are confusing at best, with no model showing prominence. It is, therefore, suggested that both models should continue to be used throughout the subsequent chapters, that is, to use both overall scores and subscale scores of the Commitment of Belief Scale, until further examination can be carried out.

## **STUDY FIVE**

### **Test – Re-test Reliability – Commitment to belief should be stable over time.**

The fifth research question relates to reliability of the scale, i.e. the stability of scores on the Commitment to Belief scale over a period of time. As well the consideration of stability for validity purposes, however, is the added consideration of theoretical implications of commitment to belief needing to be stable, in other words, it has been established, so far, that committed beliefs (core) should also be stable over time.

Indeed, Jung stated that beliefs can actually be detrimental to health, and indeed, may be the root to neurosis if beliefs attempted by the individual are inconsistent (i.e. constantly seeking for, and failing to gain, a strong belief).

Therefore, the commitment to a belief is fundamental to it being long and established within the individual.

The Commitment to Belief scale has, so far, shown that the stable factor is involved within a three-factor model of belief from self-reports on the scale. However, it would be prudent to the validity of the scale to check that a belief is indeed stable. Therefore, the fifth research question can be established by examining the test-retest reliability of the scale.

## **Method**

### **Participants**

16 undergraduate volunteer students (4 male, 12 female) of ages 18 to 30 years (Mean=23.0 years; SD=4.9) were administered the Commitment to Belief scale on 2 separate occasions, the second time was administered 4 months after the first. (See chapter 2 for details of questionnaire).

## **Results**

Using Pearson product moment correlation coefficients, test – re-test reliability was established over a 4-month interval for the scores on each of the three individual aspects of the Commitment to Belief scale (internal, stable, and global dimensions). Values are given in table 3.10 where it may be seen that the correlations for the internal, stable, and global scores ranged between .73 for the internal dimension and .85 for the global dimension. These results provide support for test – re-test reliability (Kline, 1986).

**Table 3.10:** Test – Re-test Reliability for the three aspects to belief, of internal, stable, and global dimensions, of the Commitment to Belief scale over a 4-month interval.

Dimensions of Belief	Pearson r	p
Internal	.727	< .01
Stable	.829	< .01
Global	.845	< .01

## Discussion

The fifth research question relates to the reliability of the scale, considering whether there is stability of scores on the Commitment to Belief scale over a period of time, as well as the theoretical suggestion that commitment of belief should be stable over time.

Findings show significant positive correlations with scores on the internal, stable, and global dimensions of commitment to belief from the first administration of the scale, and the second administration of the scale.

These test – re-test reliabilities indicated high congruence in participants' responses over a period of 4 months, supporting the notion that the scale measures stable aspects of belief rather than fluctuating short-term states, and is also evidence for the view that belief contains a stable dimension towards commitment. Further testing would be recommended for more extended periods of time such as one year, to confirm this.

**PART THREE:**  
**RESEARCH QUESTIONS RELATING THE COMMITMENT OF BELIEF**  
**SCALE TO OTHER CONSTRUCTS**

The remaining research question is generated from suggestions relating to how the Commitment to Belief scale is related to other psychological variables.

**STUDY SIX**

**Discriminant Validity: The relationship between commitment to belief, irrational belief, and just world beliefs**

The sixth research question is concerned with the relationship between commitment to belief, irrational beliefs, and just world beliefs. Kline (1986) stated that the degree to which a scale has validity will depend on the extent to which scores on the test should, not only correlate well with expected related factors, but also should correlate poorly with factors that they, in principle, should correlate poorly with.

Irrational beliefs represent the central interest and the core of rational-emotive theory and therapy (RET) of Albert Ellis (1971; 1973); more recently re-named Rational Emotive Behaviour Therapy (REBT: see Ellis, 1995). RET represents a special theoretical and application approach to human cognition and emotions within a broader cognitive-behavioural view of the individual, primarily focused on the explanation of the effect of cognitive factors (especially evaluative thinking and beliefs) on emotions and behaviour in the context of mental health and disorder (Chang, 1997; Kordacova, 1994). Kordacova argues that it was inspired with the philosophy of stoics who stressed the importance of personal life philosophies of an individual within the subjective look at the world, including hypotheses; and beliefs concerning the character of the world created by every individual. Epictetus's (1948) statement that 'people are disturbed not by things, but by the views they take of them' represents a fundamental part of the present-day cognitive behavioural approaches to psychopathology and psychotherapy (e.g. Ellis, 1973; Ellis & Dryden, 1987). Irrational beliefs, then, are considered to have

underlying detrimental effects on mental health regardless of what type of irrational belief, i.e. whether of a religious, or self-defeating belief in nature.

Lerner and associates (Lerner, 1965; 1980; Lerner & Miller, 1978) introduced the concept of a 'just world' to explain the results of investigations wherein subjects would denigrate a victim in a situation where the subject could not re-establish an equity condition (Couch, 1998). Just world beliefs have demonstrated correlations to self-esteem, depression, and self-blame; coping; and helplessness (Lerner, 1980; 1992; Miller & Porter, 1983; Seligman, 1975). Lerner (1980) and Rubin & Peplau (1975) argue that just world beliefs are apparent in all domains of life, i.e. both for the self and others. Belief in a just world, then, can result in a general pattern of attribution in which victims are deemed responsible for their misfortune: poverty, oppression, tragedy, and injustice all happen because they are deserved by their victims, whether the victim is themselves or another. This theory again considers that 'just' beliefs have underlying global effects on mental health regardless of the persons other attributes.

These two theories, then, can be considered to hold theoretical parallels to the theory being proposed around commitment to belief, i.e. that all three theories argue that they underpin many different dimensions to belief. However, the Commitment to Belief scale attempts to take a further step, in arguing that it is the commitment to a belief, whether, for example, 'irrational' or 'just' in nature, that is the crucial factor to mental health. Therefore, it is prudent to examine whether commitment to belief is correlated with either irrational or just world beliefs. It is suggested, for the purposes of construct validity then, that no significant correlations will exist between the Commitment to Belief scale, and irrational, and just beliefs.

## **Method**

128 undergraduate students (45 men, 81 women, 2 not reported) of ages 18 to 51 years (Mean=23.39, SD=7.09) were administered the Commitment to Belief scale and measures of irrational beliefs and just world beliefs.

QuestionnairesRespondents were administered

1. The Commitment to Belief Scale
  
2. The 11-item Irrational Beliefs Scale (Watson, Vassar, Plemel, Herder & Manifold, 1990). The scale is derived from a previous well-used measure of irrational beliefs (MacDonald & Games, 1972), but uses simplified language to measure irrational beliefs. Examples of the scale's items include 'I feel it is a catastrophe when things are not the way I would very much like them to be' [item 4] and 'I am often upset over other people's problems' [item 10]. Responses to items on the Irrational Beliefs scale are scored on a five-point response format (1=Strongly Disagree, through to 5=Strongly Agree). Possible respondents scores range from 11 to 55, with higher scores indicating a higher degree of irrational beliefs. Though reports on this version of a measure of irrational beliefs are limited, available evidence suggests the scale represents one factor among non-clinical samples (Mahoney, 1997; Maltby & Day, 2001).
  
3. A measure of just world beliefs. The most commonly used measure of a just world is the Just World Scale (Rubin & Peplau, 1975). However, since its development, there have been conflicting issues as to whether it represents a measure of uni- or multi-dimensionality (Couch, 1998). The present sample was administered the 20 items from the Just World Scale using equivalent items to those suggested by Couch (1998), and considered in the context of a 2-dimensional scale, belief in a 'just' and 'unjust' world, as suggested by Whatley (1993) and Couch (1998). The measure is scored on a 5-point response scale: 1=Disagree Strongly, through 5=Agree Strongly. Authors have also commented upon the low internal reliability, ranging from .56 to .72, (Ambrosio & Sheehan, 1990; Caputi, 1994; Couch, 1998; Whatley, 1993), and thus, more accurate measurement is called for. However, in spite of the scale's psychometric problems, the Just World scale is, at present, the best predictor of just and unjust beliefs.

## Results and Discussion

To allow comparisons with future research, the means and standard deviations by sex for internal, stable, global beliefs, overall commitment to belief, irrational belief, and just and unjust belief are given in table 3.11. No sex differences were found.

**Table 3.11:** Mean Scores for internal, stable, global beliefs, overall commitment to belief, irrational belief, and just and unjust belief by sex

Scale	Men	Women	<i>t</i>
Internal Beliefs	24.38 (12.2)	22.38 (10.9)	0.95
Stable Beliefs	24.71 (11.1)	25.04 (09.5)	-0.17
Global Beliefs	25.76 (10.9)	26.26 (09.5)	-0.27
Overall Commitment	74.84 (28.3)	73.68 (24.8)	0.24
Irrational Belief	28.72 (08.6)	30.16 (05.9)	-1.06
Just Belief	31.79 (11.0)	32.21 (08.3)	-0.23
Unjust Belief	25.21 (08.1)	25.28 (04.5)	-0.07

Pearson Product moment correlation coefficients were computed between internal, stable, and global beliefs, overall commitment to belief, irrational beliefs, and just and unjust world beliefs.

**Table 3.12:** Pearson Product moment correlations computed between internal, stable, and global beliefs, overall commitment to belief, irrational belief, and just and unjust belief.

	INTB	STAB	GLOB	COB	IRR	JUST	UNJUST
1.Internal Belief	1.00						
2.Stable Belief	0.54**	1.00					
3.Global Belief	0.49**	0.55**	1.00				
4.Commitment of Belief	0.84**	0.84**	0.81**	1.00			
5.Irrational Beliefs	-0.12	-0.05	-0.11	-0.11	1.00		
6.Just Beliefs	-0.04	0.04	0.24	0.01	-0.10	1.00	
7.Unjust Beliefs	-0.05	-0.05	-0.07	-0.70	0.09	-0.64	1.00

\*  $p < .05$ ; \*\*  $p < .01$



As can be seen in Table 3.12, no significant correlations were found for any of the factors of the Commitment to Belief scale and irrational beliefs, and just and unjust beliefs, and therefore, supporting construct validity for the Commitment to Belief scale.

## General Discussion and Final Comments

The aims of this chapter were to examine a number of reliability and validity aspects of the Commitment to Belief scale, through a series of small studies. These research questions could be largely split into three parts;

- (i) Part one: research questions related to examining the validity and usefulness of the constructs generated by the Commitment to Belief scale.
- (ii) Part two: further exploration of Commitment to Belief scales' factor structure and reliability
- (iii) Part three: how scores on the Commitment to Belief scale are related to other psychological variables reflecting underlying beliefs.

In all, there are five main findings. First, there is evidence that the constructs people are producing from the Commitment to Belief scale are important and relevant to the respondents. In study one subjects rated the importance of the constructs that they had generated from the Commitment to Belief scale as 'quite a lot' to 'very much so'. In study two, significant positive relationships were obtained for ratings of constructs on luck, and total scores on the Belief in Good Luck scale ( $r=.352$ ,  $p<.01$ ); and ratings of constructs on religion and intrinsic religion ( $r=.280$ ,  $p<.01$ ) and extrinsic personal religion ( $r=.266$ ,  $p<.01$ ), when raters were asked to consider constructs obtained by the Commitment to Belief scale, in relation to general attitude sets. These results demonstrate confidence in the Commitment to Belief Scale being used to measure a person's actual beliefs, but not only that it does measure beliefs, but that the beliefs are reflective of the attitudes of the person. This gives confidence in using the scale to further explore the theory around commitment.

Second, some concurrent validity is found for the Commitment to Belief scale against 1-item statements of commitment to belief. Study three showed significant positive correlations for internal beliefs on the Commitment to Belief scale and the first statement 'My beliefs are very personal to me' ( $r=.413$ ,  $p<.01$ ); for stable beliefs on the Commitment to Belief scale and the second statement 'My beliefs are something that will persist through time' ( $r=.458$ ,  $p<.01$ ); and for global beliefs on the Commitment to Belief scale and the third statement 'My beliefs are

important to all aspects of my life' ( $r=.381$ ,  $p<.01$ ). Therefore, these findings suggest some concurrent validity for the Commitment to Belief scale.

Third, commitment to belief seems to be fairly stable over time. From study 5, the Commitment to Belief scale shows satisfactory test – re-test reliabilities in participants' responses over a period of 4 months, supporting the notion that the scale measures stable aspects of belief rather than fluctuating short-term states, and is evidence for the view that belief contains a stable dimension within commitment to belief. Further testing would be recommended for more extended periods of time such as one year, to confirm this.

Fourth, the construct validity of the scale is supported by its absence of an association with measures of irrational and just world beliefs. As such, it can be suggested that commitment to belief does not vicariously reflect a wider set of beliefs that can be understood within another theoretical perspective. This point highlights an important aspect to the present studies in that they examine what psychological variables the Commitment to Belief scale is not related to. Such a consideration is important, though sometimes lengthy and seemingly redundant with the benefit of hindsight, as it remains important to ensure that the Commitment to Belief scale is not simply replicating what is measured within another psychological domain. Therefore, the findings of no relationship between the Commitment to Belief scale and other general belief sets (irrational and just world beliefs) adds to the construct validity of the scale.

The fifth finding is not so conclusive, as to whether the Commitment to Belief scale comprises one-factor or three-factors. The previous chapter demonstrated evidence for both a one-factor (overall commitment to belief) and a three-factor model (internal, stable, global aspects of belief) for the Commitment to Belief scale. However, replication of these findings by using exploratory factor analysis on a different sample was not confirmed. Instead, the findings, here, pointed to a one-factor model. Further, when confirmatory factor analysis was performed, the findings showed neither model as prominent. Therefore, future work should continue to report correlations for both the 1-factor and 3-factor solutions to present a

full consideration. Clearly, further examination of the factor structure of the Commitment to Belief scale is required.

Nevertheless, studies 1 to 6 show that the Commitment to Belief scale shows satisfactory reliability and validity against the criteria used.

### **Final Comments**

In summary, this chapter has detailed further consideration of a measure of commitment to belief. Constructs generated by the scale have been shown to be valid, and in turn ratings of these constructs' relationship to some other attitudes set suggest confidence in this part of the test. The scale was shown to have a stable factor structure, high test – re-test reliability, and construct validity with respect to the 1-item measure of commitment to belief and the a lack of a significant correlation with irrational and just world beliefs. However, exploratory and confirmatory factor analysis has been unable to identify whether a one or three-factor model is more appropriate.

Despite some reservations in the present study, the implications of the findings from the studies in this chapter build on findings in the previous chapter and are envisaged to be positive. The present findings suggest emerging support for the Commitment of Belief Scale that can be used to measure commitment to belief regardless of individuals' specific beliefs. This has certain advantages, none so more than the fact that this scale can be used to measure beliefs, without employing a number of different measures of belief. Therefore, given the confidence in this new measure, studies of the effects of commitment to belief, and the implications of this commitment on theoretical underpinnings can now be established.

## **CHAPTER FOUR**

Commitment to belief and Jungian Theory (Part I): Jung's typology and concepts surrounding Individuation.

### Summary

Chapters 2 and 3 involved the development of the Commitment to Belief scale; chapter 4 begins to consider the concept of commitment to belief within a more theoretical framework.

The aim of the following studies was to examine the relationship between commitment to belief and measures of individuation and self-actualisation, derived from Jungian theory, to further provide evidence for a theoretical context for recent findings with the Commitment to Belief scale. In study 1, among 43 respondents, the findings suggest that aspects of commitment to belief are related to words associated with some aspects of individuation, but not necessarily symbols associated with individuation.

In study 2, among 178 respondents, commitment to belief is related to self-actualisation as measured by the Measure of Actualization of Potential (Leclerc, Lefrancois, Dube, Hebert, & Gaulin, 1998), with more detailed relationships being revealed by the Commitment to Belief scale's association with some of the scale's subscales.

To sum, the present findings suggest that those individuals who show a high level of commitment to belief associate themselves with concepts that can be described in the process of individuation and self-actualisation, and suggests some evidence that Jungian concepts can be used to further explain the concept of underlying belief.

### Introduction

In the previous two chapters a measure of commitment to belief has been developed that shows good reliability and validity. However, at present, there is little support for a theoretical context for this measure. As the theory behind the development of the measure was, in essence, derived from Jungian theory, a programme of research is necessary to test ideas around a commitment to belief, against ideas that can be derived from Jungian theory. Given, then, that this thesis has established the measurement of commitment to belief within individuals, it seems proper to attempt to consider the mechanisms behind it. Two primary ideas emerge. The first is the possible relationship between commitment to belief and the Jungian concept of individuation. The second is the possible relationship between commitment to belief and other aspects of self-fulfillment.

### 1. Commitment to belief and individuation

Jung's term "individuation" applies to a deep inner coming together that symbolizes the union of consciousness with the unconscious (Casement, 2001). Perhaps paradoxically, on the one hand, individuation means becoming wholly and indivisibly one's self in distinction to others, but on the other hand, it also means gathering the world to oneself in order to fulfill collective qualities more completely and satisfactorily. The individuation principle is seen as the highest achievement, the human psyche in its fullest possible development. In Jungian terms this means; overcoming the divisions imposed by family and society, to divest oneself of "the false wrappings of the persona" (Jung, 1953, para. 269) [**persona** – the public face that a person assumes when relating to others]; to abandon one's ego-defenses; and rather than projecting one's shadow on to others, strive to know it and acknowledge it as part of one's inner life [**shadow** – the unconscious part of the personality that contains characteristics which one cannot recognize as one's own]; come to terms with contra sexual personality living within the personal psyche [**anima** and **animus** – the feminine and masculine sides to personality]; and attempt to bring to conscious fulfillment the supreme intentions of the Self [**Self** –

the archetype of wholeness of the psyche which transcends the ego]. Complete achievement of these objectives within an individual's lifetime is rarely possible, of course, but that is not the point. "The goal is important only as an idea" wrote Jung; "the essential thing is the opus which leads to the goal; that is the goal of a life time" (Jung, 1954, para. 400)

One of the main sources of misunderstanding of Jung's work is that of an overriding interest in "the collective unconscious". Ultimately, it was the mystery of consciousness and its relationship with the unconscious that, to him, was of greatest importance (Van Der Post, 1994). Thus, he proposed that the unconscious and the conscious exist in a profound state of interdependence of each other and the well-being of one is impossible without the well-being of the other. If ever the connection between these two great states of being is diminished, then the individual becomes sick and deprived of meaning (Jung, 1958). Consciousness for Jung, then, is not merely an intellectual and rational state of mind.

Jung produced evidence from his work among his schizophrenic and "neurotic" patients that most forms of insanity and mental disorientation were caused by a narrowing of consciousness and that the narrower and more rationally focused the consciousness of the individual, the greater the danger of antagonizing the forces of the collective unconscious to such a point that they would rise to the surface and overwhelm consciousness (Van Der Post, 1994). Jung argued it was only by continually working at an increase of consciousness that the individual found their greatest meaning and realization of the highest values. He suggested that consciousness is the abiding and deepest dream of the unconscious and that, as far back as one could trace the history of the spirit of people, it has incessantly strived to achieve ever greater and greater consciousness; a consciousness which Jung preferred to call "awareness." This "awareness," for him, included all sorts of non-rational forms of perception and knowing, which are considered by the individual as all the more important because they lead to an endless wealth of, as yet, unrealized meaning in the collective unconscious, always ready to carry reinforcements for expanding and strengthening the consciousness



of the individual, and the engagement in an unending campaign against the exactions of life in the here and now (Jung, 1953). This, then, demonstrates clearly that, in Jung's view, a deep commitment to one's beliefs is paramount in order to strive forwards toward individuation and the understanding of the Self.

From these preceding descriptions and conclusions, an individual reaching individuation is thought to demonstrate a certain 'completeness' in which the individual believes they have an understanding of the world and their place within it. One resulting feature of this 'completeness' for the individual is a belief system that the individual will be deeply committed to, as this helps them better understand the world, giving them meaning and purpose. Therefore, it is expected that someone who is high in individuation will also have a high commitment to belief. Therefore, if Jungian theory has some bearing on the present consideration of commitment, an individual who shows higher levels of commitment to belief will be expected to show higher levels of individuation.

It is with this in mind, then, that the following studies will consider whether there is a significant relationship between commitment to belief and Jung's process of individuation.

### **Issues of measurement**

The process of individuation has been shown to be an unconscious process, showing itself and the desire for growth through dreams etc (Jung, 1945; 1960), which eventually work their way through to consciousness. The first problem, then, in psychometrically testing this hypothesis, is how best to operationalise this study, and attempt to measure individuation. Indeed, Kline (1988) and Sjoback (1992) have substantially warned of the dangers of measurement when examining the unconscious (i.e. at best it is very difficult, at worst impossible; it is probably not possible) when considering Freudian *defence mechanisms*, though these critiques are probably just applicable to all psychoanalytic concepts that deal with the unconscious; including Jungian concepts that deal with the unconscious. The problems are rightly defined; firstly, when attempting

to measure a specific theory that is grounded within the unconscious, researchers have to be aware that they are actually measuring the unconscious and not some other process. Secondly, the use of questionnaire measures, no matter how formulated to embrace the unconscious mechanism, cannot directly tap the issue, simply because the responses have to be made conscious. Kline (1987), however, when speaking about the measure of *defence*, does suggest that the use of Projective Tests could be used to measure the unconscious, with well-substantiated methodology.

Thus, with the consideration of Projective Tests, Jung (1959a) himself gives insight into how it may be possible to operationalise this hypothesis. Jung believed that, when considering the process of individuation, that the understanding of the nature of consciousness could only be renewed and enlarged, as life demanded it to be renewed and enlarged, by maintaining its non-rational lines of communication with the collective unconscious. For this reason, he rated very highly all non-rational ways along which individuals in the past have tried to explore the mystery of life and stimulate their conscious knowledge of the universe around them into new areas of being and knowing. This is the explanation of Jung's interest, for instance, in astrology, alchemy, and the significance of the Tarot (Lauren Van der Post, 1984).

Jung argued that, since all symbolic material derives from a level of human experience, which is common to all of us, therefore, valid connections could be made between some of the Tarot symbols and those of other systems. But this deep layer of the psyche, which is termed the unconscious, is by definition not conscious. Its images do not derive from the ordered intellect, but rather, in spite of it. They do not present themselves in a logical manner. Indeed, Jung says, each philosophical system is merely an attempt on the part of the intellect to create a logical order out of the seeming chaos of imagery arising from the unconscious. Intellectual categories are a way of systematizing experiences of this non-verbal world. Each is a kind of grid system superimposed over the raw experience of human nature (Nicholls, 1984). This system, and therefore, the Tarot, is useful, viewed one by one, these various patterns offer convenient pigeonholes for organizing psychic experiences. The picture of the Tarot tell

a symbolic story, and just like dreams, come from a deeper level of consciousness (in defining the scope of a symbol, Jung often stressed the difference between a symbol and a sign. A *sign* denoted a specific object or idea which can be translated into words, e.g. a striped pole means barber shop; an X means railroad crossing. A *symbol* stands for something which can be presented in no other way and whose meaning transcends all specifics and includes many seeming opposites, e.g. the Sphinx, the Cross etc [Jung, 1966]).

Jung (1959b) and Nicholls (1984) argue then, that the Tarot can be considered as ‘projection holders’, meaning simply that they are hooks to catch the imagination. Projection is an unconscious, autonomous process whereby an individual will first see in the persons, objects, and happenings in their environment those tendencies, characteristics, potentials and shortcomings that really belong to them. As Nicholls (1984) says, we ‘people’ the exterior world with the witches, and princesses, devils and heroes of the drama buried in our depths.

Projecting the inner world onto the outer one is not a thing people do on purpose, it is simply how the psyche functions (Jung, 1912 onwards). In fact, projection happens so continuously and so unconsciously that individuals are usually totally unaware it is taking place. Nevertheless, these projections are useful tools toward gaining self-knowledge. Nicholls (1984) and Jung (1954) argue that the Tarot Trumps are ideal for this purpose because they represent symbolically those instinctual forces operating autonomously in the depth of the human psyche which Jung called the *archetypes*. Although the specific forms of archetypal images vary from culture to culture and person to person, their essential character is universal. People of all ages and cultures have dreamed, storied, and sung about the archetypal mother, father, lover, hero, magician, fool, devil, saviour, and old wise man (Nicholls, 1984). Since the Tarot Trumps picture all the archetypal images they are an appropriate tool for investigating the unconscious, and can be viewed, according to Jung, as a silent picture text representing the typical experiences encountered along the path of self-realisation, individuation (Jung, 1954). Therefore, Study One will consider the relationship between

individuation and commitment to belief by using the Tarot pictures.

However, although a method considering the Tarot seems sound, it is worth raising, here, some possibly problematic issues that should be taken into account. First, the results could be typical of the problems raised by Kline (1987) and Sjoback (1992), who argue that, within empirical psychology, it is difficult, if not impossible, to measure the unconscious, as all behaviour must be observable in order to measure it. Thus, the procedure in this experiment still may not directly address the unconscious process of individuation. Nevertheless, Kline did suggest that projection tests could be the way forward. With this in mind, then, research using the Tarot cards merits investigation.

Second, it is worth noting that there could be a problem with the use of the Tarot cards themselves. Over the last 20 years or so, the Tarot cards have become extremely popular, and are known, at least by reputation, by most people. However, this reputation may have distorted the pure projection theories mentioned by Jung. Throughout the last few decades the Tarot have been portrayed widely within film and television, and have become associated with Horror, and Thriller movies. The Death, Devil, and Tower cards, for instance, have often been displayed as horrific omens representing the outcome of their namesake. Intriguingly, however, the World card (which represents full individuation) is less known, i.e. less portrayed within film, and/or less threatening in nature, and thus, could show that the original meanings may not be lost. It is important to keep in mind then, that these issues may have a detrimental effect on the original purpose of the Tarot cards (as projection holders), as Jung saw them, and consequently, damage the possibility of the chance to measure the unconscious through projection methods. .

These possible problematic issues, then, may or may not affect the outcome of this experiment. Thus, because of the issues raised, another method will also be considered.

Because of the problems raised with the modern stereotypes attached to the Tarot

cards, a different approach was also considered in order to attempt to measure individuation, that of word association. Jung (1902 onwards) first turned to the Word Association Test whilst studying schizophrenic patients in Zurich, and later developed it to show evidence for his theory on *complexes* (Jung, 1958). The test was first adapted by Sir Francis Galton (1865) to differentiate types of intelligence. In design it was quite simple: the person being tested was told that a series of words would be read aloud slowly, and that they were to respond immediately, to each, with the first word that came into their head. With a stop watch the examiner would note the reaction time, and record it. Jung introduced a simple, though important, modification in giving the test; when a delayed reaction occurred he asked the subject why they had hesitated before giving a reply. Through numerous tests, it became evident to Jung that the response to the test words was influenced by the subject's emotion, and that the test was useful as a pointer to hidden (unconscious) emotion (Bennet, 1983). The Word Association Test was not only invaluable because of its simplicity, but because of the additional advantage of making a fairly accurate quantitative and qualitative evaluation of the person's response to a certain situation. According to Jung, this was because, by its form, the test reproduces the psychological situation of the dialogue. When a stimulus word is used it is more than a word, it becomes a condensed action, as though the subject were in a certain situation and responding to it.

Thus, Word Association has become a well-established technique, in psychotherapy, that claims to tap the emotions of the unconscious. Although the Word Association Test would be a prolonged and time-consuming test, it is possible to consider the theory behind Word Association, and adapt it for the purposes of a simple experiment. For this purpose, then, considering simply the emotional responses to words, it could be possible to offer participants a series of meaningful words (involved with the individuation process), and asked to respond to them on the feelings they evoke, i.e. whether they felt a dislike or affinity with each word.

Therefore, Jungian theory suggests two ways (symbolism, through the use of the Tarot, and Word Association) that can be used to consider whether there is a relationship

between the process of individuation and commitment to belief using two methods of investigation.

## **2. Other measures of self-fulfillment**

Actualisation is a term originally introduced by the orgasmic theorist, Kurt Goldstein (1939), for the motive to realize all of one's potentialities. In his view, it was the master motive. Indeed, the only real motive a person has, all others being merely manifestations of it.

Self-actualisation was further developed by Maslow (1956). In Maslow's theory of personality, it is the final level of psychological development that can be achieved when all basic and meta needs are fulfilled and the "actualization" of the full personal potential takes place. The two theories of self-actualisation are similar, however, for Goldstein, it was a motive and for Maslow, it was a level of development. For both, however, roughly the same kinds of qualities were expressed: independence, autonomy, a tendency to form few but deep friendships, a "philosophical" sense of humour, a tendency to resist outside pressures and a general transcendence of the environment rather than a simple "coping" with it (Reber, 1985).

Although self-actualisation theory is a unique concept, from the description, it has similarities to that of Jung's theory of individuation, where Jung believed that individuation was fundamentally the process of becoming an individual who is aware of his or her individuality.

Therefore, because this research question is involved with considering whether aspects of commitment to belief are related to Jung's concept of Individuation, and given the rather speculative methodology using the Tarot, and word association, it was considered worthy to further explore this question through a measure of self-actualisation (as yet there are no specific measures of Jung's individuation, only related concepts such as actualizing potential). There have, within the literature, been a number of measures for self-actualisation, namely the Personal Orientation Inventory (Shostrom,

1974), which is a forced-choice test comprising 150 items; the Personal Orientation Dimension (Shostrom, 1975), a revised version of the POI comprising 260 items: and the Short Index of Self-Actualisation (SISA) (Jones & Crandall, 1986), which has 15 items. However, in general, researchers report low internal consistency (e.g. Weiser & Myers, 1993); Weiss (1987) argues that these measures show unsatisfactory validity; and Burwick and Knapp (1991) indicated the lack of uniform definition of self-actualisation; while others reported other, and different, methodological flaws (Fogarty, 1994; Ray, 1984; Whitson & Olczak, 1991b). Therefore, when the Measure of Self-Actualisation: MAP (Lefrancois, Leclerc, Dube, Hebert, & Gaulin, 1997; 1998; 1999) was published in order to counteract previous problems with actualization measures, it was deemed to be an appropriate opportunity to use a psychometric measure to gain clarity, or further explore, the findings alongside the first two suggested methodologies.

### **Aims of the study**

This thesis has proposed, so far, that a theory of a commitment to belief can gain theoretical guidance through the writings of Jung. Therefore, it seems necessary to consider whether, in fact, commitment to belief stems from, and is part of, Jungian theory. Further, it has been proposed that Jung's concept of individuation presents certain similarities, or parallels, with the commitment to belief concept, and that this concept is part of the archetypal unconscious.

Therefore, the aim of the following two studies was to investigate whether the concept of individuation; using the Tarot cards, and word association (study 1), to attempt to 'tap' the unconscious; and the Measure of Self-Actualisation: MAP (Lefrancois, Leclerc, Dube, Hebert, & Gaulin, 1997; 1998; 1999: study 2) is related to the Commitment to Belief scale.

## STUDY ONE

### Method

42 undergraduate volunteer students (9 men, 33 females) of ages 18 to 51 years (Mean=25.4 years; SD=9.90) took part in this experiment.

### Procedure

Each participant was shown a picture of each of the 22 major Tarot cards. They were asked to consider each card on how the picture made them feel, in other words, whether they liked the picture or not. Each response was rated using a 5-point Likert scale of (1) = 'I strongly dislike this picture,' through to (5) = 'I strongly like this picture'. Because, in this experiment, interest lies with the process of individuation, only the last seven cards, which, according to Jung, specifically relate to individuation, were considered for statistical analysis (Devil, Tower, Star, Moon, Sun, Judgment, World). High scores correspond to an affiliation with these seven pictures, hence showing strong individuation.

Because, it has been demonstrated that the Tarot cards hold archetypal properties, and clearly, according to Jung (1954), mapped out the individuation process, it was also considered that descriptive terms for the meaning of each card would be appropriate for use in this test, as a means of word association. Thus, ten descriptive words, or phrases, (used by Jung to describe each card's meaning) were selected for each of the seven Tarot trumps to reflect their characteristics. The number of words used was arbitrary, but it was decided that ten would be ample by which to create the desired response. A full list of the words used is shown below. It should also be made clear that the descriptions used for this experiment are well established, both within Jungian psychology (Nicholls, 1984), and within more traditional uses of the cards, i.e. books on divination (e.g. Douglas, 1988; Gwain, 1994).



After rating the pictures, then, participants were given the series of words and asked to consider how each word made them “feel”, i.e. their emotional response. These words represented concepts to do with each aspect of individuation: Devil, Tower, Star, Moon, Sun, Judgment, and World

1. ‘Devil’: (1) Acceptance of Limitations; (2) Acceptance of Failings; (3) Hidden Forces; (4) Materialism; (5) Worldly Pleasures; (6) Unconscious Desires; (7) Removal of Mental Blocks; (8) Instinct; (9) Abundance; and (10) Procreation.

2. ‘Tower’: (1) Catharsis; (2) Testing of Values and Ideas; (3) Forces of Destiny; (4) Catastrophe; (5) Unexpected Events; (6) Havoc; (7) Setback; (8) Loss of Stability; (9) New ways of life; and (10) Breaking of Convention.

3. ‘Star’: (1) Good Fortune; (2) Promise; (3) Optimism; (4) Joy; (5) Hope; (6) Inspiration; (7) Sense of Purpose; (8) Renewal of Energy; (9) Insight; and (10) Good Health.

4. ‘Moon’: (1) Uncertainty; (2) Fluctuation; (3) Illusion; (4) Intuition; (5) Unconscious; (6) Fantasy; (7) Unpredictability; (8) Psychic Forces; (9) Vulnerability; and (10) Higher Self.

5. ‘Sun’: (1) Strength; (2) Energy; (3) Success; (4) Prosperity; (5) Wealth; (6) Happiness; (7) True Friends; (8) Good Cheer; (9) Health; and (10) Triumph.

6. ‘Judgment’: (1) Reward for Past Effort; (2) Settling of Matters; (3) Rejoicing; (4) Renewal; (5) Growing Awareness; (6) Resolution; (7) Completion; (8) Final Outcome; (9) Self-appraisal; and (10) Evaluation.

7. ‘World’: (1) Triumphant Achievement; (2) Harmony; (3) Realisation of Goals; (4) Reward; (5) Completion; (6) Attainment; (7) Perfection (8) Success; (9) Satisfaction; and (10) Wholeness.

Participants were asked to immediately rate each word, or phrase, due to their affiliation with it. This was done using a 5-point Likert scale of (1) = 'Strongly Dislike' through (5) = 'Strongly Like'. High scores correspond to positive emotional affiliation with these seven cards, hence showing strong leanings toward individuation.

Participants were then asked to complete the Commitment to Belief Questionnaire.

### Questionnaires

The Commitment to Belief Questionnaire. This scale measures commitment to belief by generating constructs. These constructs are then rated as to their importance on a 7-point scale from (1) = 'Strongly Agree', through (7) = 'Strongly Disagree' (see Chapter 2 for full description of the scale).

*A brief definition of the Tarot Trumps (Nicholls, 1984)*

<p><b>FOOL</b> – the wanderer, or hero (Represents the individual setting out on their life's journey)</p>						
<p>The Top Row is called the <i>Realm of Gods</i> as it pictures many of the major archetypes</p>						
<b>MAGICIAN</b>	<b>HIGH</b>	<b>EMPRESS</b>	<b>EMPEROR</b>	<b>POPE</b>	<b>LOVER</b>	<b>CHARIOT</b>
	<b>PRIESTESS</b>					
	(Virgin archetype)	(Mother archetype)	(Father archetype)	(Old wise man archetype – institutional)	(Eternal triangle)	(Ego king)
<p>Then, in the journey, the Hero's chariot carries him to the Second Row – the <i>Realm of Earthly Reality and Ego Consciousness</i> i.e. sets out to find vocation, family, social position (concerned with equilibrium i.e. harmonious relationship between opposing forces)</p>						
<b>JUSTICE</b>	<b>HERMIT</b>	<b>WHEEL of FORTUNE</b>	<b>STRENGTH</b>	<b>HANGED MAN</b>	<b>DEATH</b>	<b>TEMPERANCE</b>
(Moral problems)	(Further enlightenment outside established religion)	(Things beyond our control)	(Confronting animal nature)	(Helplessness)	(Re-growth)	(Energies and hopes begin to flow again)
<p>Next, with Temperance, the Fool, or Hero, is ready to turn his energies more consciously toward the inner world – from ego development – to –Self.</p>						
<p>The Third Row is called the <i>Realm of Heavenly Illumination and Self-Realisation</i></p>						
<b>DEVIL</b>	<b>TOWER</b>	<b>STAR</b>	<b>MOON</b>	<b>SUN</b>	<b>JUDGMENT</b>	<b>WORLD</b>
(Flashes of Inspiration)		- Illumination in ascending order -			(Re-birth)	(The Self)

The map above shows a brief summary of the journey of the Self through the Tarot cards, as established by Jung, and advanced by Nicholls (1984) (actual pictures shown to participants can be seen in appendix 3). Definitions will concentrate on the cards specifically related to the individuation process.

As can be seen, the final row of Tarot Trumps are particularly concerned with the process of individuation.

The Devil – represents those first flashes of inspiration towards self-realisation, i.e. the confrontation with the **Shadow**. Jung goes on to say that the classic picture of the Devil as half man, half beast “exactly describes the grotesque and sinister side of the unconscious, for we have never really come to grips with it and consequently it has remained in its original savage state” (Jung, 1971, p.208). This card threatens the very order of things, i.e. the routine of life, or the rut and shackles people make for themselves. It is only when facing and dealing with this Shadow archetype that a person begins the journey towards turning inwards and individuation. It is only when individuals break from convention that they move on to a conscious relationship with the Self. One is driven by the Self to move away from the original identifications in order to establish a reunion with the Self on a different level of awareness.

The Tower - represents the first steps of illumination. The Tower picture contains an image of lightning striking. According to Jung, this is a symbol of divine energy, a numinous force, and represents naked power and illumination in its most primitive form. This lightning strikes at the ivory tower that a person creates for themselves, opening their eyes to the unknown and forcing their journey to individuation further onwards.

The Star – represents the second step to illumination, and pictures an important step toward a more conscious and active participation in the process of individuation. In the Tower, enlightenment comes in a blinding flash, which is dazzling, and cataclysmic to be faced directly (i.e. still unconscious), much less assimilated (Nicholls, 1984). In the Star, the central figure is pictured as a naked human being, humbly kneeling. In her calm, natural setting there is room for contemplation and space for silent growth. In the psychology of a man, the Star represents his **anima**, or unconscious feminine side. In a woman’s journey this figure, being of the same sex, would symbolize a shadow aspect of the personality. Since the Star woman is drawn on the grand scale, larger than life, she could, according to Nicholls, personify a quality far beyond the personal shadow and

more akin to the Self. In either case, the kneeling figure represents a hitherto inaccessible aspect of the psyche (Jung, 1963a).

The Moon – represents the third step towards illumination, and represents the bleakest moments of the journey, where the individual sinks deepest into the unconscious, possibly suffering depression, as the individual loses contact with every aspect of their conscious ego, or self; the darkest hour is before the dawn. This is the final confrontation with the shadow, that which allows the individual to incorporate his unconscious side in with the conscious self.

The Sun – represents the final stage to illumination. Here, the individual can recapture the lost spontaneity of their natural selves, rediscovering the inner harmony they felt as children before the opposites of the personality were split, in order to live within the ordered demands of their social realms. It is the archetype of the ‘eternal child’.

Judgment – represents rebirth. Here, for the first time, a human figure (the one rising from the tomb) faces the source of illumination. This was not the case in any of the ‘illuminating’ cards above, in these; the archetypal realm took place above and behind the earthly figures. They felt its effects, but only indirectly, via the unconscious. In Judgment the central figure consciously perceives and hears the call from the trumpet. In the Tarot series, Judgment heralds the beginning of a new order – a new interaction between conscious and unconscious, which will become manifest in the final card, the World.

The World – represents the Self, the realization of individuation, and the center of psychic wholeness. The picture shows a dancer holding the wands of positive and negative energy. She is released from neurotic conflict and more open to the fundamental experience of opposites, which Jung calls ‘divine conflict’. As Jung (1958) frequently emphasized, and as the Tarot dramatizes, to be filled with divine conflict is a privilege and burden specifically human. It offers no escape into ‘another world’ but presents the individual with the challenge of living in this world in a meaningful way.

Content within the framework of her natural boundaries, the World dancer is concerned, as with alchemy, in turning the base metal of her everyday existence into golden experiences of lasting value (Nicholls, 1984).

## Results

### Initial Analysis of Individuation Words

The 10 individual ratings for words corresponding to each card were added together and considered for internal reliability. The following results show the process of considering which items were of best use in this word association scale by removing the lowest item to total correlations each time an alpha coefficient (Cronbach, 1951) was computed for each set of items (each card). According to Kline (1986), when considering the worth of a new scale, this is the best method to use over techniques such as factor analysis for defining scales of a small sample size.

### Words corresponding to the 'Devil'

The 10 words, or phrases, used for rating that are associated with the Devil aspect of individuation are as follows: (1) Acceptance of Limitations; (2) Acceptance of Failings; (3) Hidden Forces; (4) Materialism; (5) Worldly Pleasures; (6) Unconscious Desires; (7) Removal of Mental Blocks; (8) Instinct; (9) Abundance; and (10) Procreation.

Computing Alpha coefficients for all ten words was 0.6546. In line with Kline (1986), the lowest item to total was removed and recalculated. Removal of item 4 (materialism) led to an alpha coefficient of 0.7050, suggesting satisfactory internal reliability for the remaining 9 items for the scale.

### Words corresponding to the 'Tower'

## Chapter 4: Commitment to Belief and individuation

The 10 words, or phrases, used for rating that are associated with the Tower aspect of individuation are as follows: (1) Catharsis; (2) Testing of Values and Ideas; (3) Forces of Destiny; (4) Catastrophe; (5) Unexpected Events; (6) Havoc; (7) Setback; (8) Loss of Stability; (9) New ways of life; and (10) Breaking of Convention.

Computing Alpha coefficients for all ten words was 0.6380. In line with Kline (1986), the lowest item to total should be removed and recalculated until satisfactory internal reliability is reached. However, with this set of words, removing any subsequent items would in fact reduce the alpha coefficient statistic. Therefore, although satisfactory reliability was not reached, it was considered that the statistic is perhaps high enough to carry forward for the scale, but with caution.

### Words corresponding to the 'Star'

The 10 words, or phrases, used for rating that are associated with the Star aspect of individuation are as follows: (1) Good Fortune; (2) Promise; (3) Optimism; (4) Joy; (5) Hope; (6) Inspiration; (7) Sense of Purpose; (8) Renewal of Energy; (9) Insight; and (10) Good Health.

Computing Alpha coefficients for all ten words was 0.9077, suggesting satisfactory internal reliability for all items to be taken forward for the scale.

### Words corresponding to the 'Moon'

The 10 words, or phrases, used for rating that are associated with the Moon aspect of individuation are as follows: (1) Uncertainty; (2) Fluctuation; (3) Illusion; (4) Intuition; (5) Unconscious; (6) Fantasy; (7) Unpredictability; (8) Psychic Forces; (9) Vulnerability; and (10) Higher Self.

Computing Alpha coefficients for all ten words was 0.3140. In line with Kline (1986), the lowest item to total was removed and recalculated. Removal of item 9

(vulnerability) led to an alpha coefficient of .6198, therefore, the next lowest item to total was removed and recalculated. Removal of item 1 (uncertainty) led to an alpha coefficient of 0.6352, which was also unsatisfactory. Removal of item 2 (fluctuation) led to an alpha coefficient of 0.6438. Removal of item 7 (unpredictability) led to an alpha coefficient of 0.6629. Unfortunately, the removal of any more items again began to reduce the coefficient, therefore, although not totally a satisfactory internal reliability statistic, the statistic is perhaps considered high enough to carry forward for the scale, but with caution. Thus, the remaining 6 items (illusion, intuition, unconscious, fantasy, psychic forces, higher self) were taken forward for the scale. The reduction in the amount of words needed to create a reliable scale may raise questions around the individuation construct related to the 'Moon', or it may suggest problems with the original set of words chosen, however, the words used are of a long established nature corresponding to this card. Nevertheless, it is worth noting, here, however, that the words deemed unreliable were words that reflect levels of uncertainty or doubt to the individual (for example: uncertainty; fluctuation; unpredictability; and vulnerability), and perhaps not surprisingly were not liked by the participants involved.

### Words corresponding to the 'Sun'

The 10 words, or phrases, used for rating that are associated with the Sun aspect of individuation are as follows: (1) Strength; (2) Energy; (3) Success; (4) Prosperity; (5) Wealth; (6) Happiness; (7) True Friends; (8) Good Cheer; (9) Health; and (10) Triumph.

Computing Alpha coefficients for all ten words was 0.8410, suggesting satisfactory internal reliability for all items to be taken forward for the scale.

### Words corresponding to 'Judgment'

The 10 words, or phrases, used for rating that are associated with the Judgment aspect of individuation are as follows: (1) Reward for Past Effort; (2) Settling of Matters; (3)



Rejoicing; (4) Renewal; (5) Growing Awareness; (6) Resolution; (7) Completion; (8) Final Outcome; (9) Self-appraisal; and (10) Evaluation.

Computing Alpha coefficients for all ten words was 0.9075, suggesting satisfactory internal reliability for all items to be taken forward for the scale.

#### Words corresponding to the 'World'

The 10 words, or phrases, used for rating that are associated with the World aspect of individuation are as follows: (1) Triumphant Achievement; (2) Harmony; (3) Realisation of Goals; (4) Reward; (5) Completion; (6) Attainment; (7) Perfection (8) Success; (9) Satisfaction; and (10) Wholeness.

Computing Alpha coefficients for all ten words was 0.9528, suggesting satisfactory internal reliability for all items to be taken forward for the scale.

Again, it seems worth noting here, that when cards demonstrated “unlikable” qualities in themselves, they performed less well on internal reliability, than when cards demonstrated “likeable” or successful qualities.

#### Main Analysis

Table 4.1 shows the mean scores by sex for internal, stable, global dimensions, and overall commitment to belief; the seven Tarot pictures; and the total word scores for each of the seven Tarot cards.

Here, table 4.1 shows that females scored significantly higher for the liking of the Tower words, than males. No other significant differences were found between gender and any of the Tarot pictures and words, and all aspects of the Commitment to Belief scale. Therefore, subsequent analysis was performed with men and women combined.

**Table 4.1:** Mean Scores by sex for internal, stable, global, and overall commitment to belief; the seven Tarot pictures; and the total word scores each of the seven Tarot cards.

Scale	Mean (SD) Males(N=9)	Mean (SD) Females(N=33)	t
Internal Belief	36.13 (13.5)	31.55 (11.8)	0.95
Stable Belief	35.00 (05.3)	31.35 (11.5)	0.87
Global Belief	31.13 (10.1)	31.03 (10.2)	0.23
Overall Commitment to Belief	102.25 (24.8)	93.94 (28.6)	0.75
Devil card	03.78 (01.4)	04.00 (01.1)	-0.51
Tower card	03.67 (01.1)	03.91 (01.1)	-0.59
Star card	02.67 (01.0)	02.78 (01.0)	-0.32
Moon card	03.11 (01.1)	03.06 (01.1)	0.12
Sun card	03.00 (01.0)	02.47 (01.2)	1.19
Judgment card	03.22 (01.1)	03.42 (01.0)	-0.50
World card	02.67 (01.2)	02.97 (01.2)	-0.65
Devil words	32.67 (03.7)	33.06 (04.8)	-0.23
Tower words	32.13 (02.6)	27.90 (04.1)	2.76**
Star words	37.56 (06.1)	39.23 (08.0)	-0.58
Moon words	34.56 (06.6)	31.74 (04.4)	1.51
Sun words	36.11 (07.2)	39.17 (09.7)	-0.87
Judgment words	35.89 (06.8)	35.67 (07.8)	0.07
World words	39.11 (06.6)	39.35 (10.1)	-0.07

\*p<0.05; \*\* p<0.01

Pearson Product moment correlations were computed for each of the three aspects of internal, stable, and global beliefs, and an overall commitment to belief for the Commitment to Belief scale, and the total scores for each of the seven Tarot Trumps and each rating total for each set of words. Table 4.2 shows significant positive correlations were found for the 'World' card and all aspects of the Commitment to Belief scale (internal, stable, global, and overall commitment to belief). However, no significant

correlations were found for the 'Devil', 'Tower', 'Star', 'Moon', 'Judgment' card and each of the three aspects of belief, and overall commitment to belief.

Also, significant positive correlations were found for the sum of 'Devil' words and all aspects of the Commitment to Belief scale (internal, stable, global, and overall commitment to belief). No significant correlations were found for the sum of 'Tower' words and each of the three aspects of belief, and overall commitment to belief. Significant positive correlations were found for the sum of 'Star' words and all aspects of the Commitment to Belief scale (internal, stable, global, and overall commitment to belief). A significant positive correlation was found for the sum of 'Moon' words and internal beliefs, but no significant correlations were found for, stable, global, and overall commitment to belief. Significant positive correlations were found for the sum of 'Sun' words and internal, and global beliefs, and overall commitment to belief, but no significant correlation was found for stable belief. Significant positive correlations were found for the sum of 'Judgment' words and internal, and global beliefs, and overall commitment to belief, but no significant correlation was found for stable belief. No significant correlations were found for the sum of 'World' words and each of the three aspects of belief, and overall commitment to belief.

Table 4.2: Pearson Product moment correlation coefficient matrix for all the variables, and internal, stable, global and overall commitment to beliefs.

	Sta	Glo	OC	Dev	Tow	Sta	Moo	Sun	Jud	Wor	DW	TW	StW	MW	SuW	JW	WW
Int	<u>.51</u>	<u>.57</u>	<u>.84</u>	.16	.18	.07	.19	-.12	.17	<u>.55</u>	<u>.37</u>	.29	<u>.56</u>	<u>.35</u>	<u>.47</u>	<u>.49</u>	.26
Sta		<u>.67</u>	<u>.85</u>	.15	.16	.26	.11	.00	.14	<u>.53</u>	<u>.39</u>	.19	<u>.41</u>	.11	.22	.29	.26
Glo			<u>.87</u>	.30	.15	.23	.09	.03	.28	<u>.53</u>	<u>.45</u>	.23	<u>.48</u>	.12	<u>.39</u>	<u>.42</u>	.25
OC				.24	.19	.22	.16	-.04	.27	<u>.64</u>	<u>.47</u>	.29	<u>.58</u>	.24	<u>.44</u>	<u>.48</u>	.30
Dev					<u>.51</u>	.09	<u>.39</u>	.29	.01	.05	.04	-.32	<u>.34</u>	-.05	.29	.18	.10
Tow						-.01	<u>.45</u>	.17	.22	.12	-.09	-.36	.19	.05	.12	.13	.02
Sta							.26	<u>.36</u>	<u>.33</u>	.29	-.01	.18	-.20	-.04	-.16	-.14	.03
Moo								<u>.56</u>	.27	.26	-.22	-.29	.02	-.09	.05	-.03	-.19
Sun									.29	.07	-.37	-.03	<u>-.45</u>	-.17	<u>-.42</u>	<u>-.42</u>	<u>-.49</u>
Jud										<u>.62</u>	-.06	.09	.05	.04	.01	.02	-.16
Wor											.17	.22	<u>.32</u>	.29	.29	.23	.11
DW												<u>.55</u>	<u>.62</u>	<u>.46</u>	<u>.49</u>	<u>.62</u>	<u>.53</u>
TW													.09	<u>.58</u>	.07	.23	.19
StW														<u>.39</u>	<u>.86</u>	<u>.85</u>	<u>.62</u>
MW															<u>.34</u>	<u>.56</u>	<u>.38</u>
SuW																<u>.83</u>	<u>.56</u>
JW																	<u>.68</u>

**p<.05, p<.01**

**Key:** INT=Internal Beliefs: STA=Stable Beliefs: GLO=Global Beliefs: OC=Overall Commitment to Beliefs: DEV=Devil card: TOW=Tower card: STA=Star card: MOO=Moon card: SUN=Sun card: JUD=Judgment card: WOR=World card: DW=Score of Devil Words: TW=Score of Tower Words: StW=Score of Star Words: MW=Score of Moon Words: SuW=Score of Sun Words: JW=Score of Judgment Words: WW=Score of World Words:

## Discussion

The aim of study one was to examine the relationship between commitment to belief and aspects of individuation, whilst attempting to measure aspects of the unconscious.

The first thing to note is the inter-relationships between the measures of individuation. These are not encouraging if the present study is looking for some construct validity for either of these measures. Though there are some high correlations between the individuation measures through the use of words (of star, moon, sun, judgment and world), significant correlations between the picture representations of individuation and their corresponding word scale rarely occur, and if they do they are negative (e.g. sun picture and sun words). Though these significant negative relationships are interesting; the present findings suggest some further work is needed to exact what is measured in responses to Tarot cards and the individuation words using larger samples and other criteria variables.

However, in terms of commitment to belief and these measures of individuation, the results show, that none of the Tarot pictures, with the exception of the World, show a significant correlation with internal, stable, global, and overall commitment to belief. However, all aspects of belief were found to be significantly correlated to the Tarot picture of the World, that of the end result of individuation.

There could be two possible reasons for these results. Firstly, the results could simply show that there is no relationship between individuation and commitment to belief, and that commitment to belief is working totally independent of this Jungian process. Secondly, the results could be typical of the problems raised by Kline (1987) and Sjoback (1992), and that the procedure in this study may not have directly addressed the unconscious process of individuation.

The findings, however, could also be due to the problems raised concerning people's awareness, and misconceptions, of the Tarot meanings. For instance, popularity of the Tarot may have distorted the original meanings, e.g. the meaning of the Death or Devil cards, thus allowing pure projection, mentioned by Jung, impossible. Nevertheless, some support is found between commitment to belief and liking of the World picture. Given this, alongside Kline's comments suggesting that projection tests could be the way forward, further research, should be considered using the Tarot cards, perhaps by using some more stringent measure.

However, more support is found for a possible relationship between commitment to belief and individuation with the use of words. The Devil and the Star words showing significant correlations to all aspects of belief (internal, global, stable, and overall commitment), the Sun and Judgment words showing significant correlations to all aspects of belief except stable belief, the Moon words showing only a significant correlation with internal belief, and the Tower and the World showing no significant correlations to all aspects of belief. From these findings then, two issues can be raised:

Firstly, the findings are certainly intriguing, as the results show some correlations between some sets of words and the Commitment to Belief scale. The findings certainly do not show an unconscious individuation process, but they do suggest that people who show higher levels of commitment to belief are attracted to words and phrases such as Strength, Energy, Happiness, Triumph, Reward for Past Effort, Settlement of Matters, Renewal, Growing Awareness, and Self-appraisal.

Secondly, using the words or phrases as a description of a type of person, the people that are scoring highly on the Commitment to Belief scale like, or show affiliation for, the kinds of concepts and ideas demonstrated by the words on the Tarot. Thus, this places these individuals inside the ideas of Jungian theory, liking concepts of completion and wholeness. However, the findings are far from

conclusive, and the present consideration suggests little understanding of whether these people are driving for individuation. However, for the purposes of this thesis the findings are intriguing and worth further study, particularly beginning by attempts to examine a factor structure to the word/phrases with a larger sample.

### **STUDY TWO**

So far, study one has investigated whether a relationship exists between aspects of the Commitment to Belief scale and Jung's concept of individuation, as an unconscious process. However, given the problems raised about measuring the unconscious, it was deemed appropriate to also use a psychometric measure of self-actualisation (considered a similar concept to individuation in parts) to gain clarity, or further explore the findings of study one. Therefore, study two aims to consider the relationship between commitment to belief and self-actualisation.

### **Method**

156 undergraduate students (58 men, 98 women) of ages 18 to 58 years (Mean=29.31, SD=10.55) were administered the Commitment to Beliefs scale and the Measure of Actualization of Potential: MAP (Leclerc, Lefrancois, Dube, Hebert, and Gaulin, 1998)

### **Questionnaires**

1. The Commitment to Belief Scale: see chapter 2 for full Details
2. Measure of Actualization of Potential: MAP (Leclerc, Lefrancois, Dube, Hebert, and Gaulin, 1998). The MAP is a self-report inventory composed of 27 items scored on a 5-point response format describing typical traits of self-actualizing individuals. The scale was subjected to factor analysis and results

suggest two main ways in which the scale breaks down; (i) items comprise 2 main dimensions; and (ii) that items can be further broken down into 5 sub-dimensions. The two main dimensions are Openness to Experience (17 items) and Self-Reference (10 items). These items then can be broken down into five sub dimensions: Adaptation (items 5, 10, 15, 20) e.g. “I adapt to change... with great difficulty, through to ... very easily”, and Autonomy (items 1, 6, 11, 16, 21, 25) e.g. “I am a person who values him/herself... very little, through to ... enormously”, under the Self-Reference dimension: and Openness to Self (items 2, 7, 12, 17, 22, 26) e.g. “I can express my emotions in any circumstances... with great difficulty, through to ... very easily”, Openness to Others (items 3, 8, 13, 18, 23, 27) e.g. “I can predict my reactions... very rarely, through to ... very often”, and Openness to Life (items 4, 9, 14, 19, 24) e.g. “For me, the present moment counts...very little, through to ... extremely”, under the Openness to Experience dimension. In addition an overall score for the scale can be computed (Actualisation Potential) by adding all the scores. This is a new scale, and thus, at present, no validity has been presented. The final score is a number between 1 and 5 and is obtained by summing the item scores and dividing the result by the number of valid responses.

### Results

Table 4.3 shows the Cronbach alpha statistics (Cronbach, 1951) computed for all the scales between the present sample and mean scores for all the variables by sex. Alpha coefficients for the Commitment to Belief scale (internal, stable, global, and overall commitment), adaptation, and the dimension of openness to experience are equal to or above the .7 criteria suggested for satisfactory reliability (Kline, 1986). Autonomy, openness to self, openness to others, openness to life, and the dimension of self-reference are below .7, however, Lefrancois, Leclerc, Dube, Hebert, and



Gaulin (1997) report that these subscales show similar reliability statistics in their study.

Further, no differences were found between any of the scales by sex. Therefore, the following analysis was performed with men and women combined.

Table 4.3: Alpha coefficients for all the scales and mean scores for all the variables by sex

Scale	$\alpha$	Men	Women	$t$
Internal Beliefs	.94	18.96 (12.3)	19.84 (10.2)	-0.48
Stable Beliefs	.88	26.22 (10.6)	23.77 (08.5)	1.59
Global Beliefs	.88	26.19 (11.1)	23.19 (08.1)	1.94
Overall Commitment	.95	71.38 (30.6)	66.80 (23.8)	1.04
Autonomy	.50	03.31 (00.6)	03.26 (00.5)	0.45
Adaptation	.71	03.35 (00.7)	03.30 (00.6)	0.35
Openness to Self	.69	03.28 (00.6)	03.36 (00.6)	-0.79
Openness to Others	.56	03.35 (00.6)	03.49 (00.5)	-1.60
Openness to Life	.63	03.37 (00.7)	03.38 (00.5)	-0.15
Self-Reference	.58	03.33 (00.5)	03.28 (00.5)	0.55
Openness to Experience	.83	03.34 (00.6)	03.41 (00.4)	-0.89
Actualisation Potential	-	03.34 (00.5)	03.36 (00.4)	-0.34

\*  $p < .05$ ; \*\*  $p < .01$

Pearson product moment correlation coefficient statistics were computed for each of the three aspects of internal, stable, and global beliefs, and an overall commitment to belief, for the Commitment to Belief scale, and all aspects of the actualization potential scale.

Table 4.4 shows significant positive correlations were found for the internal aspects of commitment to belief and all self-actualization sub-scales except

autonomy, adaptation, and self-reference. Significant positive correlations were found for the stable aspects of commitment to belief and all self-actualization sub-scales except adaptation and openness to others. Significant positive correlations were found for the global aspects of commitment to belief and all self-actualization sub-scales except adaptation, openness to others, and openness to life. Also, significant positive correlations were found for overall commitment to belief and all self-actualization sub-scales except openness to others.

**Table 4.4:** Pearson Product moment correlation coefficient matrix for all the variables of the measure of actualization potential, and internal, stable, global, and overall commitment to belief.

	Int	Sta	GL	OC	Aut	Ada	SR	OS	OO	OL	OE	AP
1.Int	-											
2.Sta	.71**	-										
3.Gl	.70**	.86**	-									
4.OC	.89**	.93**	.92**	-								
5.Aut	.12	.22**	.24**	.21**	-							
6.Ada	.16	.14	.14	.17*	.53**	-						
7.SR	.16	.21*	.22**	.22**	.91**	.84**	-					
8.OS	.19*	.17*	.16*	.19*	.58**	.45**	.60**	-				
9.OO	.18*	.12	.09	.15	.34**	.49**	.45**	.59**	-			
10.OL	.26**	.22**	.15	.24**	.33**	.50**	.46**	.57**	.62**	-		
11.OE	.28**	.24**	.20*	.28**	.49**	.56**	.59**	.86**	.86**	.84**	-	
12.AP	.25**	.27**	.24*	.29**	.72*	.74**	.84**	.85**	.77*	.77**	.94**	-

\*p<.05, \*\*p<.01

**Key:** INT=Internal Beliefs: STA=Stable Beliefs: GL=Global Beliefs: OC=Overall Commitment to Beliefs: AUT=Autonomy: ADA=Adaptation: SR=Self-Reference: OS=Openness to Self: OO= Openness to Others: OL=Openness to Life: OE=Openness to Experience: AP=Actualisation Potential.

### Discussion

The aim of the studies was to examine the relationship between commitment to belief and individuation (study one), thus attempting to 'tap' the unconscious; and the similar concept of self-actualisation (study two), through psychometric measurement.

In terms of commitment to belief and individuation, the results are conflicting, showing that none of the Tarot pictures, with the exception of the World, show a significant correlation with internal, stable, global, and overall commitment to belief. However, all aspects of belief were found to be significantly correlated to the Tarot picture of the World, that of the end result of individuation. It has been suggested that these results may be due to two reasons; (1) there is no relationship between individuation and commitment to belief, thus, commitment to belief is working totally independent of this Jungian process; (2) results could be typical of the problems raised by Kline (1987) and Sjoback (1992), who suggest that measuring the unconscious is, as yet, impossible. It has been suggested that findings could also be due to the modern day popularity of the Tarot cards. However, given the somewhat limited support, it has been proposed that projection tests could be the way forward, and that further research, should be considered using the Tarot cards, perhaps using some more stringent measure.

More support, however, is found for a relationship between commitment to belief and individuation with the use of word association. These findings are intriguing, as the results show some correlations between some sets of words and the Commitment to Belief scale. The findings certainly do not show an unconscious individuation process, but they do suggest that people who show higher levels of commitment to belief are attracted to words and phrases such as Strength, Energy, Happiness, Triumph, Reward for Past Effort, Settlement of Matters, Renewal, Growing Awareness, and Self-appraisal. It has also been found, here, that people who score highly on the Commitment to Belief scale like, or show affiliation for, the

kinds of concepts and ideas demonstrated by the words on the Tarot. Thus, placing these individuals inside the ideas of Jungian theory, linking concepts of completion and wholeness. However, as previously mentioned, the findings are far from conclusive, and the present consideration suggests little understanding of whether these people are driving for individuation. Nevertheless, the findings are intriguing and worth further study, particularly by considering a factor structure to the word/phrases with a larger sample.

In considering the relationship between commitment to belief and self-actualisation (study two). Although self-actualisation is not the same concept as Jung's individuation, it is considered within the literature as a similar concept and worthy of investigation. Commitment to belief shows a significant positive correlation with some aspects of self-actualisation, namely openness to life, openness to experience and overall scores for actualisation potential. These correlations are small ( $r < .3$ ), however, they do provide support for the prediction that commitment to belief will be related to aspects of self-actualisation. The correlations between the subscales provide some further detailed description of the type of person who scores higher in their commitment to belief. Such persons will tend to believe that they can 'express their emotions in any circumstances very easily' (Openness to Life) and that 'the present moment counts extremely' (Openness to Experience). The reason why other aspects of self-actualisation do not correlate with commitment to belief may reflect theoretical differences between individuation and self-actualisation, however, the subscales of the self-actualisation scale that are related, provide further support for commitment to belief showing some level of openness and actualization. Further research might wish to extrapolate some of the theoretical distinctions between these concepts and investigate further the relationship between measures of self-fulfillment and commitment to belief.

In summary, the present findings suggest that those who score high in commitment to belief are attracted to words/phrases/statements relating to aspects of

development, growth, wholeness, completeness, reflection, and self-actualisation as described by Jung in the process of individuation, and other theorists concerned with the development of the self. These present findings also suggest these relationships might be better measured by the use of clusters of words rather than symbolic images. These present findings do not place these people totally inside Jungian concepts, as the present consideration does little to establish whether these processes are unconscious. However, the present findings suggest that those who show a high level of commitment to belief associate themselves with concepts described in the process of individuation and self-actualisation.

## **CHAPTER FIVE**

Commitment to belief and Jungian Theory (Part II): personality types  
and optimism

## **Summary**

After development of the Commitment to Belief scale in chapters 2 and 3, chapter 4 began to consider the concept of commitment to belief within a more theoretical framework by examining the relationship between commitment to belief and measures of individuation and self-actualisation, derived from Jungian theory, to further provide evidence for a theoretical context for recent findings with the Commitment to Belief scale. Chapter five continues this exploration within Jungian theory.

Therefore, the aim of the following studies was to examine the relationship between commitment to belief and measures of Jungian personality types and optimism.

In study 1, among 43 respondents, the findings suggest that aspects of commitment to belief are related to extraversion, and sensing personality dimensions. In study 2, among 118 respondents, commitment to belief is related to optimism, and is consistent with a priori predictions.

The findings of significant relationships between commitment to belief and Jungian personality types can be explained within Jungian psychology. However, such speculations need to be further examined within more specific predictions relating to particular traits before any firm conclusions can be drawn. The positive relationship between commitment to belief and optimism suggests that optimism may provide a context for understanding the mechanisms that might be involved in the relationship between commitment to belief and psychological well-being.

## **Introduction**

In chapters two and three a measure of commitment to belief has been developed that shows reliability and validity for a scale that; adapts personal construct theory and attribution style as a basis for measuring individuals' commitment to a set of beliefs; where a one and three-factor model are found to be related to better psychological well-being, and largely fall outside personality space, and attribution style; where the constructs people are producing are found to be important and relevant; that is consistent over time; and reflects a concept that cannot be explained outside of the commitment to belief context. In order to gain theoretical context for this measure, Jungian ideas have been proposed to enable some understanding of this concept. Thus, chapter four proposed a programme of research to test whether Jungian theoretical guidance is appropriate, by investigating commitment to belief against the notion of individuation and self-actualisation. Chapter five aims to extend this programme of research by considering two further ideas derived from Jung, the first focuses on personality types; the second focuses on optimism (both these theories are also considered to be embedded within individuation).

### **1. Jungian personality types and commitment to belief**

Next to his theory of dreams and dream interpretation lies Jung's most enduring contribution to the field of Psychology, his theory of Psychological Types (1913/1921/1971). Jung was interested in illustrating how consciousness works in practice, and also in explaining how it is that consciousness works in different ways, in different people (Jung, 1963). He formulated a general theory of psychological types hoping to distinguish the components of consciousness. The theory was first published in 1921. Because such an empirical classification of such a psychological typology lends itself well to quantitative measurement, an entire body of test instruments and related literature has since grown up around these types (1921). The most well known of these being the Myers-Briggs test which is based on Jung's typology, with an extra category of 'judgment/perception' added to the function types.



According to Jung, some individuals are more excited or energized by the internal world and others by the external world: these are introverts and extraverts respectively. Acknowledging that neither of these categories is fixed and exclusive, Jung sought merely to describe in a practical, observable way that someone's dominant or typical attitude was toward people, the world, and oneself. But in addition to these basic attitudes to the world, there are also certain properties or functions of consciousness. Of function types, there are four, two categorized as rational, and two categorized as irrational. The two rational types are thinking and feeling. The term rational is used because both of these functions use criteria to organize and decide. Jung identified these as thinking – by which he meant knowing what a thing is, naming it and linking it to other things, in other words organizing and deciding based on analysis and logic; feeling – which for Jung means something more than affect or emotion, a consideration of the value of something, or having a viewpoint or perspective on something, in other words organizing and deciding on the basis of values and morality, and individual worth. The two irrational functions, in Jung's system, are intuition and sensation. The term irrational is used because these function types do not *decide* primarily but rather *experience* first. Jung identified these as intuition – which Jung uses to mean a sense of where something is going, of what the possibilities are, without conscious proof or knowledge; and sensation – which represents all facts available to the senses, telling us that something is, but not what it is.

These definitions, then, describe a person's overall style of consciousness and their orientation towards inner and outer worlds. Jung's model is carefully balanced (Samuels, Shorter, & Plaut, 1997). A person will have a primary (or superior) mode of functioning; this will be one of the four functions. The superior function will come from one of the two pairs of rational or irrational functions. Of course, Jung argues, the person will not depend exclusively on this superior function but will utilize a second, or auxiliary function as well. This, according to Jung's observations, will come from the opposite pair of rational or irrational functions depending on whether the superior function came from the rational or irrational pair. Thus, for example, a person with a superior function of feeling (from the rational pair) will have an auxiliary function of either sensation or intuition (from the irrational pair).

Using the two attitudes and the superior and auxiliary functions, it is possible to produce a list of eight basic types. Jung sometimes represented the four functions on a cross-like diagram, thus clearly showing the diametrically opposed functions. The ego has energy at its disposal, which can be directed into any of the four functions, and of course, the extraversion-introversion possibility provides another dimension. In addition, Jung observed that the other function from the pair that provided the superior function often caused a great deal of difficulty for the individual. Thus, for example, if an individual has a superior function of feeling, then he may have a problem with the other function from the same, rational category, namely, thinking. Samuels *et al.* (1997) use the following example of a feeling individual who seems to have a mature, balanced attitude to life and seems stable. They are at home with emotions and value personal relationships. But they lack the capacity for sustained intellectual or systematic thinking. They may even regard such thinking as a terrible thing, hate logic and proudly talk of themselves as innumerate etc. But the pride may hide feelings of inadequacy and the problem may not be so easily resolved. Jung names the problematic function the inferior function. This will be the area of consciousness that is difficult for a person. On the other hand, the inferior function, which remains for the most part in the unconscious, contains enormous potential for change, which can be brought about by attempts to integrate the contents of the inferior function into ego-consciousness. Doing this, realizing one's inferior function, is a prime element in individuation because of the 'rounding out' of the personality that is involved.

Jung first defined individuation in 1913, in the initial version of his book on psychological types. He described individuation as "a person's becoming himself, whole, indivisible and distinct from other people, or from collective psychology (although in relation to these)" (Jung, 1971). Jung emphasized the attributes of the process as follows (1) the goal of the process is the development of the personality; (2) it presupposes and includes collective relationships, i.e. it does not occur in a state of isolation; and (3) individuation involves a degree of opposition to social norms which have no absolute validity; the more a person's life is shaped by the collective norm, the greater is their individual morality.

Thus, according to Jung, the integration of personality is extremely important in the process of individuation, but a person's personality, Jung argues, may also have a direct effect on their drive towards individuation. That is, that people of different psychological types grow and develop in different ways, each needing to integrate their inferior functions via a different developmental path.

So, it is established that Jungian personality types are inextricably linked to the process of individuation. Alongside this, the current chapter of this thesis is concerned with the theoretical underpinnings of commitment to belief. So far, the previous chapter has shown that there is conflicting, or far from conclusive, findings to whether commitment to belief has a place within individuation, or is in fact a separate indivisible concept. It is to further this exploration that the present research question will consider whether Jungian personality types are related to commitment to belief, and therefore, showing further evidence to commitment being rooted in, or outside, individuation.

## **2. Commitment to belief and optimism**

When reading Jung's work, an impression begins to form as to his idea of what a "healthy" individual should be like. Such a person aims to achieve individuation through the balancing of the psyche and the incorporation of the soul (1971) or spirit, and interpretation of the archetypes (Jung, 1912/1956; 1917/1953; 1934/1960). These pursuits, according to Jung, aim to give enlightening or life-giving force that gives rise to those stabilizing, integrating powers that make a being whole, and a person fully 'human'. Such a person can find meaning (1964) and purpose in life, and feel and experience optimism, sensitivity, receptivity, empathy and creativity. It is, on the other hand, according to Jung, that when a person cannot find meaning and purpose that neuroses and mental instability occurs (1973; 1958). These "healthy" individuals then, in order to strive for meaning, appear to have adopted a positive outlook on life, taking on the chin whatever life throws at them, and seeing it as a way of *growth* and *development*, for it is only by incorporating all difficulties of life and understanding one's true personality and nature that one comes near to individuation (Jung, 1964). In Jung's view (1964), the four highest achievements of human effort are faith, hope, love, and insight, and it is only when a person possesses

these that the true meaning of life can be understood. Jung adds that when a person is “ill”, i.e. suffering from neuroses, that they must be understood as the suffering of a human being who has not discovered what life means for him. And this arises from his “having no love, but only sexuality; no faith, because he is afraid to grope in the dark; no hope, because he is disillusioned by the world and by life; and no understanding, because he has failed to read the meaning of his own existence” (Jung, 1933, p.265).

It seems clear, then, Jung believes that an individual needs meaning to persevere with life and integration of the Self to reach individuation, which in turn, gives a person full meaning to life and a reason for being. In other words, a person needs to find belief and commit themselves with their whole being (Jung, 1958) in order to face/cope with life’s struggles openly and with courage, in order to understand themselves, and their own life’s meaning in order to achieve their answers to life through individuation. Also, that people, in order to strive for meaning and persevere, regardless of what life throws at them, appear to have adopted a strong positive outlook (optimistic) on life, seeing challenges etc as ways of developing and growing, which in turn leads to a healthier, deeper self.

This overall impression, then, of an individual who considers life in a positive way, looking for meaning, and perseveres regardless, is also identifiable within modern theory. Thus, in modern psychology, this “healthy” individual could come under the remit of the theory of optimism. Optimism has enjoyed a growing popularity recently (Carver & Scheier, 1981; 1982b; Scheier & Carver, 1985), particularly in regards to its relationship with health and overall well-being; as Chang, Maydeu-Oliveras, and D’Zurilla (1997) note, optimism and life satisfaction are highly related. Similarly, Smith, Pope, Rhodewalt, and Poulton (1989) believe that optimists’ holding of positive expectations for the future leads them to be better able to solve problems, and also experience better health. Carver and Scheier (1985; 1994) argue that individuals who display positive or optimistic expectations are more likely to persist in goal-oriented efforts than those with a negative or pessimistic view if, and when, disruption of goal-oriented activities occur. Thus, there appears to be similarities between the two ideologies described here, i.e. those of Jung, and Carver and Scheier (optimism). Therefore, it could be said that Jung, when

demonstrating how a person best deals with life, may be describing the coping mechanism of optimism, i.e. that a person could become/or is more optimistic. Thus, for the purposes of exploring Jungian concepts and their relationship to the Commitment to Belief Scale, it would be prudent to examine optimism. Therefore, the second research question will consider the relationship between dispositional optimism and commitment to belief.

### **Aims of the study**

The aim of the following studies was to examine two things. The first is an exploratory study examining the relationship between commitment to belief and Jungian personality types. The second is to examine the relationship between commitment to belief and optimism using the prediction that there should be a significant positive correlation between the two variables, due to similarities between Jungian ideas around commitment to belief and optimism.

## **STUDY ONE**

### **Method**

The 42 undergraduate volunteer students (9 men, 33 females) of ages 18 to 51 years (Mean=25.4 years; SD=9.90) were asked to complete the Myers-Briggs Type Indicator after completing the Commitment to Belief Scale. These respondents were the same sample that completed the individuation measures outlined in Chapter 4.

### Questionnaire

The Myers-Briggs Type Indicator (MBTI; Myers & Briggs, 1962) is a self-report personality inventory designed to measure Jungian psychological type preferences. The MBTI results indicate the respondents likely preferences on four dimensions; Extraversion (E) or Introversion (I); Sensing (S) or Intuition (N); Thinking (T) or Feeling (F); Judging (J) or Perceiving (P).

Recent research applications of the Myers-Briggs Type Indicator include such areas as counseling (Dilley, 1987; Myers & Myers, 1980; Newman, 1979). Communications (Yeakley, 1982; 1983), career counseling (Apostal & Marks, 1990; Pinkney, 1983), learning or education (Drummond & Stoddard, 1992), empathetic response (Jenkins, Stephens, Chew & Downs, 1992), creativity (Tegano, 1990), decision making (Davis, Grove & Knowles, 1990), business investing (Dogden & Rapp, 1992), and general theory of the inventory (Boyle, 1995; Gardner & Martinko, 1996; Tzeng, Ware & Chen, 1989).

The reliability and validity of the MBTI scales are well established (Hill, 2000). The four dimensions of the MBTI are reliable and independent (Kendall, 1998; Hill, 2000), and the scale demonstrates construct validity (Carlson, 1985; Comrey, 1983, Hicks, 1984; Lorr, 1991; Thompson & Borrello, 1986), and convergent validity with the scales with other personality constructs (Drummond & Stoddard 1992; MacDonald, Anderson, Tsargarakis & Holland, 1994; Morehouse, Farley, & Youngquist, 1990; Steele & Kelly, 1976; Zumbo & Taylor, 1993).

All questions on the Myers-Briggs Type Indicator are presented in a forced-choice format. Results on the indicator are generally reported with letters representing each of the eight preferences. There are 16 possible ways to combine the preferences, resulting in 16 MBTI types (ISTJ, ISTP, ESTP, ESTJ, ISFJ, ISFP, ESFP, INFJ, INFP, ENFP, ENFJ, INTJ, INTP, ENTP, ENTJ). Each type is viewed by Myers-Briggs to represent a 'gift,' a unique quality, which has distinct advantages, and positive qualities (Myers & Myers, 1980). The aim of the inventory is to determine which of the two extreme functions or attitudes is preferred. The forced-choice format is used by Myers-Briggs with each item presented separately, with each pole representing a dichotomous extreme for one attitude or function (Myers & McCauley, 1985). So for example, for an introversion/extraversion item; one response choice will determine the respondent is introverted, the other extraverted. No items allow responses in the middle ground between the two extremes. The reason for this is that it is believed in theory that a distinct preference exists and can be measured dichotomously (Myers, 1962). It is apparent from this that the middle ground between the two extremes of each scale is not explored with this instrument (Barbuto, 1997).

However, while the Myers-Briggs Type Indicator is designed to identify an individual's type rather than measure proportional existence, many researchers have treated the scaled scores as continuous measures of personality (e.g. Apostol & Marks, 1990; Drummond & Stoddard, 1992; Jenkins, Stephens, Chew & Downs, 1992; MacDonald, *et al*, 1994; Tegano, 1990; Zumbo & Taylor, 1993). This practice, then, is common, perhaps more common than using the inventory dichotomously as was intended when the instrument was developed (Myers, 1962). Since researchers interested in Jungian psychology continue to use the scores as continua, it seems that if the inventory were redefined for developing proportional continuous measures of each attitude and function, as has been suggested and explored (Tzeng, *et al* 1989), the practical usefulness of Jungian psychology could be better realized (Barbuto, 1997), particularly when Jung believed that all personality functions and attitudes were present in all of us, but to varying degrees of preference, and that the eight psychological types that Jung recognized represented the extremes of personality types. Recent research also supports this view (Arnau, Green, Rosen, Gleaves, & Melancon, *in press*).

For the purposes of this study, then, three things are apparent; (1) the items for the MBTI can be identified as dichotomous; (2) using the MBTI is simply to consider Jungian personality variables alongside the Commitment to Belief scale; and (3) it is not necessary to identify each participant's individual personality type. Therefore, results will be considered by using the ratings of each item on the MBTI on a continuum, and each individual function will be correlated separately to the Commitment to Belief scale.

## **Results**

Because this study tries to consider each separate function alongside the Commitment to Belief Scale, each subscale was separated out and correlated separately. Thus, for the pairing E-I (extraversion-introversion), E was recoded so that higher scores on this subscale showed a higher leaning toward introversion; for the pairing S-N (sensing – intuition), S was recoded so that higher scores represented a leaning toward intuition; for the pairing F-T (feeling-thinking), F was recoded so

that higher scores represented a leaning toward thinking; and for the pairing J-P (judgment-perception), P was recoded so that higher scores represented a leaning toward judgment.

Table 5.1 shows mean scores for all the variables by sex. No differences were found between men and women and scores on the Commitment to Belief scale and the four personality dimensions. Therefore, the following analysis was performed with men and women combined.

Table 5.1. Mean scores for all the variables by sex.

Scale	Men	Women	<i>t</i>
Internal Beliefs	36.13 (13.5)	31.55 (11.8)	0.35
Stable Beliefs	35.00 (05.3)	31.35 (11.5)	0.39
Global Beliefs	31.13 (10.1)	31.03 (10.2)	0.98
Overall Commitment	102.25 (24.8)	93.94 (28.6)	0.46
Extraversion/Introversion	43.22 (14.2)	36.97 (12.3)	0.19
Sensing/Intuition	59.22 (13.5)	55.09 (11.8)	0.37
Feeling/Thinking	51.33 (14.7)	46.48 (09.9)	0.25
Judging/Perceiving	35.89 (10.2)	41.55 (11.8)	0.19

Pearson Product moment correlations were then computed for each of the three aspects of internal, stable, and global beliefs, and an overall commitment to belief for the Commitment to Belief scale, and the total scores for each of the four pairings, or functions of E-I, S-N, F-T, and J-P (Table 5.2).



**Table 5.2:** Pearson Product moment correlations computed between internal, stable, and global beliefs, overall commitment to belief, and the sum of the pairings E-I, S-N, F-T, and J-P.

	Int	Sta	GL	OC	EI	SN	FT	JP
1.Int	1.00							
2.Sta	.51**	1.00						
3.GL	.57**	.67**	1.00					
4.OC	.83**	.85**	.87**	1.00				
5.EI	-.42**	-.17	-.06	-.27	1.00			
6.SN	.23	.28	.35*	.34*	-.21	1.00		
7.FT	-.04	-.08	-.17	-.11	.06	-.07	1.00	
8.JP	-.18	-.06	-.02	-.11	.29	-.34**	-.14	1.00

\*p<.05, \*\*p<.01

**Key:** INT=Internal Beliefs: STA=Stable Beliefs: GL=Global Beliefs: OC=Overall commitment to beliefs: EI=Extraversion/Introversion: SN=Sensing/Intuition: FT=Feeling/Thinking: JP=Judging/Perceiving.

Table 5.2 shows that a number of variables are significantly related to each other. A significant negative correlation was found for internal beliefs and the pairing E-I. No significant correlations were found for stable and global beliefs and overall commitment to belief and the pairing Extraversion-Introversion. Therefore, demonstrating the more extraverted a person is, the higher their commitment to internal belief.

Significant correlations were found for global beliefs and overall commitment to beliefs and the pairing Sensing-Intuition. No significant correlations were found for internal and stable beliefs and the pairing Sensing-Intuition. Therefore, demonstrating the more a person uses the function of sensing, the higher their commitment to global belief and overall commitment to belief.

No significant correlations were found for the pairings Feeling-Thinking and Judging-Perceiving, each of the three aspects of belief, and overall commitment to belief.

## **Discussion**

The aim of study one was to examine the relationship between commitment to belief and Jungian personality types.

In relation to commitment to belief and Jungian personality types there are some intriguing findings. Higher extraversion being related to internal beliefs, but no other aspect of belief; and higher use of the sensing function being related to both global beliefs and overall commitment to belief, but not related to either internal or stable beliefs. No other significant correlations were found for the other pairings of Feeling-Thinking and Judging-Perceiving.

From these findings then, three issues need to be addressed. Though this type of post-hoc hypothesizing should be taken with caution, particularly given the size of the sample, the present relationships can be explained within Jungian descriptions.

First is the relationship between extraversion and the internal commitment to belief subscale. Jung, when describing the two attitudes of personality (Extraversion – Introversion) in conjunction with the path of individuation, commented that within each extravert there is always an introvert, albeit deep in the unconscious, and visa versa. He explains extraverts as living within the outer world; however, the more an extravert throws themselves into frenzied projects and relationships in the outer world, the more a pull toward quiet and reflection forms in the unconscious. Indeed, Von Franz (1971) comments that extraverts have a much purer relationship to the inside than the introvert, when they, indeed, choose to reflect. Similarly extraversion is not only thought to represent sociable traits, but also traits such as sensation seeking, optimistic and carefree behaviours. Therefore, the consideration of these traits suggests that an individual who is committed in their beliefs may also be demonstrating confidence and carefree behaviours. However, this present finding

contradicts the findings in chapter two where no correlation was found between Eysenck's extraversion dimension and commitment to belief.

Secondly, the findings suggest that the sensing function is correlated to both global belief and overall commitment to beliefs. As the sensing function operates via *experiencing* to make sense of the world, it seems proper that if these people have learned sensing as a primary function that they carry their beliefs as a way of perceiving the world into all life's experiences (global), however, it is less easy to explain it's correlation to overall commitment, unless this is simply a facet of a high enough correlation with the global subscale that is reflected in overall scores.

Thirdly, although some of the relationships between personality types and commitment to belief can be, to some, extent, explained, it is important to remember that the sample used in this study was relatively small (due to the fact the MBTI was given to participants taking part in the individuation measures in chapter 4 – Tarot cards and words). Therefore, the findings given need to be considered with some caution. Further research would need to be carried out on a larger sample, and the findings replicated, to be considered evidence of some aspects of personality being related, and perhaps driving, commitment to belief.

## STUDY TWO

### Method

118 undergraduate students (39 males, 79 females) of ages 18 to 51 years (Mean=23.40, SD=7.10) were administered the Commitment to Beliefs Scale and the Life Orientation Test (Carver & Scheier, 1989; 1994).

### Questionnaire

The Life Orientation Test – Revised: LOT-R (Scheier, Carver, & Bridges, 1994). The original LOT (Scheier & Carver, 1985) was a 10-item scale with two filler items, four positively worded items, and four reverse-coded items. The LOT-R has

been revised to remove colloquialisms, and to address any issues of neuroticism accounting for unique variance with mental health variables in place of optimism (Smith, Pope, Rhodewalt & Poulton, 1989). It is a 10-item measure with four filler items, three positively worded items, and three reverse-coded items. Respondents indicate their degree of agreement with statements such as, “In uncertain times, I usually expect the best”, using a five-point response scale ranging from “Strongly disagree” to “Strongly agree”. Negatively worded items are reversed, and a single score is obtained.

## Results

Table 5.3 shows the Cronbach alpha statistics (Cronbach, 1951) computed for all the scales among the present sample, and mean scores for all the variables by sex. All of the alpha coefficients are equal to or above the .7 criteria suggested for satisfactory reliability (Kline, 1986). Further, no significant differences were found between any of the scales by sex. Therefore, the following analysis was performed with men and women combined.

Table 5.3: Alpha coefficients for all the scales and mean scores for all the variables by sex.

Scale	$\alpha$	Men	Women	$t$
Internal Beliefs	.83	24.89 (12.8)	22.35 (10.9)	1.11
Stable Beliefs	.89	24.74 (10.4)	25.05 (09.4)	-0.16
Global Beliefs	.89	26.00 (10.4)	26.19 (09.4)	-0.11
Overall Commitment	.92	75.63 (29.5)	73.59 (25.1)	0.39
Optimism	.85	19.58 (05.9)	20.38 (04.3)	-0.82

$p < .05^*$ ,  $p < .01^{**}$

Table 5.4 shows the Pearson Product moment correlation coefficients computed for each of the three aspects of internal, stable, and global beliefs, and an overall commitment to belief for the Commitment to Belief Scale, and the total optimism scores for the Life Orientation Test.

**Table 5.4:** Pearson Product moment correlations computed between internal, stable, and global beliefs, overall commitment to belief, and the Life Orientation Test

	COB	INTB	STAB	GLOB	Optimism
1. Commitment of Belief	1.00				
2. Internal Belief	0.84**	1.00			
3. Stable Belief	0.84**	0.54**	1.00		
4. Global Belief	0.82**	0.49**	0.55**	1.00	
5. Optimism	0.49**	0.44**	0.42**	0.39**	1.00

\* $p < 0.05$ ; \*\* $p < 0.01$

Significant positive correlations were found for all aspects of belief, internal, stable, global beliefs, and overall commitment to belief, and optimism.

## Discussion

The aim of the preceding studies was to examine the relationship between commitment to belief, Jungian personality types, and commitment to belief and optimism.

In relation to commitment to belief and Jungian personality types there are some intriguing findings. Higher extraversion being related to internal beliefs, but no other aspect of belief; and higher use of the sensing function being related to both global beliefs and overall commitment to belief, but not related to either internal or stable beliefs. No other significant correlations were found for the other pairings of Feeling-Thinking and Judging-Perceiving.

These findings present three main issues for consideration; (i) it is speculated that extraverts could be seen as having a 'purer' relationship with their unconscious, and that an individual who is committed in their beliefs may demonstrate confidence and carefree behaviours (like extraversion). However, it must be remembered that findings in chapter two found no correlation between Eysenck's extraversion dimension and commitment to belief. (ii) The sensing function operates via *experiencing* to make sense of the world, and thus, suggests that if these people have

learned sensing as a primary function that they carry their beliefs as a way of perceiving the world into all life's experiences (global). However, it is less easy to explain its correlation to overall commitment. (3) Further research should be carried out on a larger sample before results can be verified.

In terms of the relationship between commitment to belief and optimism, the findings show that there is a strong positive relationship between optimism and commitment to belief. This is indeed a finding that demands further study. However, two issues arise here; Firstly, it is not clear whether commitment to belief is simply correlated with the modern cognitive theory of optimism, or whether it indeed, demonstrates evidence of Jungian thought. However, regardless of whether it places commitment to belief inside or outside of Jungian theory, it does support using Jungian concepts to guide the theory of belief.

Secondly, it is not clear whether commitment to belief is simply measuring optimism, or it is indeed a separate and unique concept, which, as mentioned when defining Jung's overall theories, has an effect, and is affected by, optimism. For example, that a person who has deep commitment to belief gains optimism because of this, or that a person with an optimistic attitude to life spurs them to develop deep commitment to belief. Further, research has concentrated on the role of optimism and pessimism and the effect on health. Reker and Wong (1985), Robinson-Whelan, Kim, MacCallum, and Kiecolt-Glaser (1997), Scheier and Carver (1992), and Taylor, Buunk, and Aspinwall (1990) have found that those persons assessed as optimists have a more physical, psychological and general well-being than those persons assessed as more pessimistic. Measures of optimism are also negatively correlated with the reporting of physical and depressive symptoms across time (Carver & Scheier, 1985; Carver & Gaines, 1987; Chang et al, 1997). Therefore, optimism may be an important concept to help understand the relationship between commitment to belief and psychological health and may be a focus for future research.

### **Final Comments**

To summarise, the findings demonstrate that aspects of commitment to belief are related to some aspects of Jungian personality dimensions (extraversion, and sensing)

and optimism. Thus, the findings of significant relationships between commitment to belief and Jungian personality types can, to some extent, be explained within Jungian psychology. However, such speculations need to be further examined within more specific (or directed) predictions/hypotheses relating to particular personality traits before any firm conclusions can be drawn. Further, the consistent relationship between commitment to belief, its subscales and optimism are consistent with a-priori predictions. This finding may also suggest that optimism may provide a context for understanding the mechanisms that might be involved in the relationship between commitment to belief and psychological well-being. This consideration will be further examined within chapter eight of this thesis.

## **CHAPTER SIX**

Commitment to belief, spirituality and religiosity



## Summary

The commitment to belief hypothesis has been developed from Jung's observations around individuals' belief being deeply committed (internalised, solid, and used within all situations within one's life). However, Jung's ideas were deeply enveloped within religion and spirituality.

This thesis has argued that it is the *strength* of belief (commitment) that is important and not necessarily the *type* of belief (e.g. spirituality or religiosity). However, given the importance of religiosity and spirituality in Jungian theory, it is necessary to consider whether commitment to belief is related to religion and spirituality.

176 undergraduate students (65 males, 111 females) completed measures of commitment to belief, religious orientation (intrinsic, extrinsic, and quest), spiritual orientation, religious experience and religious coping. Pearson product moment correlations revealed no significant relationships existed between all aspects of commitment to belief and measures of religion and spirituality.

The present findings suggest that commitment to belief is separate from religiosity and spirituality, and, thus, demonstrates further support for the construct validity of commitment to belief.

## Introduction

The commitment to belief hypothesis has, as mentioned previously, grown from the theoretical underpinnings of Jung and his ideas on the nature of beliefs, i.e. that a person's beliefs should be deeply committed (internalised, stable across time, and recognisable within all situations of their life), in order to be beneficial to that person's mental health. However, Jung's ideas were deeply embedded within his concepts of religion and spirituality, whereas the theory of a commitment to belief argues that it is the *strength* of belief (commitment) that is important and not necessarily the *type* of belief (e.g. spirituality or religiosity). However, given that commitment to belief has been found, in previous chapters, to be congruous with a number of Jungian concepts; and given that spirituality and religiosity were important concepts to Jung's formulation of the importance of commitment to belief, it seems necessary to consider whether commitment to belief is, in fact, related to religion and spirituality.

Therefore, chapter six will examine whether commitment to belief is something that falls outside spirituality and religiosity, or whether commitment to belief is simply a different way of measuring Jung's overriding theories of spirituality and religiosity.

With this purpose in mind, then, different theories/measures of religion and spirituality will be addressed. Jung's theory surrounding the nature of beliefs has been fully outlined elsewhere within this thesis; however, due to the nature of this chapter, it is deemed necessary to summarise, and sometimes re-visit, his theory in regards to the emphasis made on religion and spirituality, as well as addressing modern theories of these religious and spiritual concepts.

## Jungian theory surrounding religiosity and spirituality

Jung noted three pertinent facts with regard to religion and spirituality. First, there is no civilisation, present or past, which has not had a religion, a set of

beliefs and sacred rituals. Thus, Jung (1958; 1959) posited that there exists a religious instinct within human beings, an inherent striving toward a relationship with a something, or a someone that transcends human limitations, in other words, a higher power.

Secondly, in Jung's eyes, the irrationality of religious beliefs does not reduce their inherent value as irrefutable psychic facts. Jung noted the overwhelming importance of religious beliefs to individuals and entire societies, an importance depreciated and underestimated when these are dismissed as irrational or illusory. Refraining from the near-religious faith modern people have in salvation through the power of rational thinking and technology, Jung acknowledged that much of human experience was indeed irrational, ineffable, and symbolic. Jung believed psychology, as a discipline, could be capable of working rationally and scientifically with basically irrational data, *only if* these data, religion in this case, were not dismissed reductively but taken altogether seriously.

Thirdly, Jung's broader and more sophisticated knowledge of mythological systems, religious practices, and comparative ethnology led him to see that by no means did Western religious beliefs, ancient or modern, constitute the whole of world religions. Though many elements of many religions might be interpreted as projections of personal family conflicts onto the heavens in a kind of cosmic transference (Freud, 1927/1961), Jung's wider-ranging familiarity with world religions showed him that by no means was that all there was to religious beliefs, Eastern or Western.

Jung's observations of the universality of religion led him to view religion as a manifestation of the collective unconscious. In this regard, he noted that religion actually referred to two distinct things. First, religion was religious experience, the direct contact with the divine, which he called the *numinosum* (a term he borrowed from Rudolph Otto, 1917), manifested in dreams, visions, and mystical experiences. Second, religion consisted of religious practice, the

doctrines and dogmas as well as the rituals and enactments, which Jung saw as necessary to protect people from the awesome power of such a direct experience of the numinous. Both religious experience and religious practice were, therefore, for Jung, psychological phenomena that found their source inwardly and outwardly in the collective unconscious. Thus, to separate Jung's discussion of specifically religious symbolism from his discussions of other types of symbols is difficult, since all manifestations of the collective unconscious are in a certain sense religious, objects of devoted attention that demand respect.

Many authors (Corbett, 1999; Hopke, 1999; Palmer, 1997; Storr, 1973) argue that, by separating religion from institutional churches and creeds, by seeing religion more as an attitude than as a set of beliefs, and by understanding religion as a psychological phenomenon of the first order, Jung's writings on religion might, in a certain sense, have more of an effect on modern individuals who have "lost faith" than those who have found and practice a set of religious beliefs. However, Hopke (1999) argues that Jung's attitude towards religion is among his most brilliant contributions to modern thought and redeems religion for modern people as an aspect of human existence at one both vital to human fulfilment and amenable to investigation and understanding.

Jung's writings on religion (1964; 1958; 1967) were extensive and ranged from technical to more popularly oriented discussions. While the more popular articles were aimed at helping the general public see how psychology and religion were not inimical but had many important points of contact, Jung's more technical explorations of theological and religious imagery in the West are among his most famous achievements. For example, "Answer to Job" (1958), in which Jung grapples with the problem of good and evil biblically and psychologically, as well as his psychological interpretation of Roman Catholic ritual and theology in "Transformation Symbolism in the Mass" (1958) are famous for the controversy they provoked (Hopke, 1999). Much of Jung's writings on Eastern religion are concerned both with the psychological exploration of these symbols and with the differentiation between Eastern and Western modes of thought and experience

(considered more spiritual). It is clear from those pieces that Jung intended to offer a critique of those Europeans who believed that rejecting their own Western cultural and religious heritage and unthinkingly adopting Eastern religious beliefs and practices would automatically resolve their religious questions and unrest.

To summarise Jung's overall theory, Jung saw religion as an attitude of mind, a careful consideration and observation in relation to certain 'powers'; spirits, demons, gods, laws, ideals; or, indeed, an attitude toward whatever has impressed a person sufficiently so that they are moved to worship, obedience, reverence, and love. In Jung's own words: "We might say, then, that the term 'religion' designates the attitude peculiar to a consciousness which has been changed by experience of the Numinosum" (1958, para. 9). The numinosum itself corresponded to a *God-image* in the individual with an archetypal propensity both to provoke expression and, when expressed, to take a recognisable form. This form, Jung observed, was approximate to that which has characterised the relationship between human beings and the so-called divine throughout the ages (archetype). He felt humans to be naturally religious, the religious function being as powerful as the instinct for sex or aggression. Being a natural form of psychic expression, religion was also, in his view, an appropriate subject for psychological observation and analysis.

The psychological carrier of the *God-image*, in a person, Jung called the *Self*. He saw it as something that acted as an ordering principle of the personality, reflecting the potential wholeness of the individual, prompting life enhancing encounters and verifying *meaning*. He noted that almost anything that connects a person with these attributes could be used as a *symbol* of the self. However, certain time-honoured and basic forms such as the cross and the *mandala* are acknowledged collective expressions of man's highest religious value; i.e. the cross symbolising the tension of the ultimate opposition of human and divine, and the mandala representing the resolution of that opposition. Psychologically, Jung saw the *transcendent function* as fulfilling the task of linking man and God, or a person and his ultimate potential by way of symbol formation.

Finally, the idea of the *ego*'s being enjoined to respond to the demands of the self is central to Jung's concept of *individuation*, the process of fulfilling oneself. Such fulfilment becomes of religious significance in as much as it conveys meaning to individual endeavour. All lives, Jung felt, involve the bringing together and resolution of heterogeneous and conflicting impulses. He saw a union between the individual and the collective psyche as being possible only when an alive and valid religious attitude exists.

Therefore, although this thesis has developed from Jung's implications around belief being religious in nature, i.e. an individual's belief needs to be deeply committed (internalised, solid, and used within all situations within one's life), it is prudent to investigate the relevance of the theory of commitment to belief in light of Jung's other implications, that this nature is directed toward a something, or someone that transcends human limitations, a higher power. This thesis has argued that it is the *strength* of belief in itself that is important and not necessarily the *type* of belief; and thus, has moved away from the direct concepts of religion and spirituality. Nevertheless, because Jung's ideas greatly influenced the commitment to belief hypothesis, again it is necessary to consider whether commitment to belief is simply reflecting belief systems such as religion and spirituality. For this purpose, then, modern measurable theories of religion and spirituality will be considered alongside the Commitment to belief scale.

### **Modern theories of spirituality**

Regardless of the substantial research carried out by authors on Spirituality (Allport, 1960; Frankl, 1978; Gartner, 1991; Jung, 1958; 1933; Maslow, 1971; Payne, Bergin, Bielma & Jekins, 1990; Seligman, 1990; Westgate, 1996; Worthington; 1989), modern research is still unclear on the nature of spirituality and, thus, how best to operationalise it. For example, Aldridge (1993) presented 13 definitions focused primarily on spirituality. These can be largely summed up under four broader descriptions; (1) a need to transcend or rise above everyday

material or sensory experience; (2) One's relationship to God or some other higher universal power, force or energy; (3) Search for greater meaning, purpose and direction in living; and (4) Healing by means of non-physical kinds of intervention [e.g. prayer, meditation, religious beliefs (Thoreson, 1999)].

Others, however, have defined spirituality as largely part of organised religion, for example, the Judeo-Christian tradition that includes both institutional as well as personal factors (e.g. Koenig, 1997). From this perspective, religion is the more inclusive concept (Larson, Swyers & McCullough, 1998). Thus, it can be seen that spirituality is a somewhat unclear concept; yet, defining spirituality is essential to the study of this construct.

For the purposes of this chapter, religiosity and spirituality are viewed as distinct but overlapping concepts. Spirituality is the broader concept and represents beliefs and values, whereas religiosity is narrower, more focused, and refers to behaviours (Chandler, Holden & Kolander, 1992; Hinterkopf, 1994; Ingersoll, 1994; Westgate, 1996). Whereas religiosity is public and is often manifested in the context of a religious institution, spirituality is primarily a private matter and may or may not be expressed publicly. One may express spirituality in a religious context, but a person's religiosity is not always a result of spirituality (Allport, 1960; Genia, 1991; Genia, 1993). The overlap between spirituality and religiosity can be found here in the realm of public expression. Recent theorising and research supports this view, suggesting that, although there are overlaps between certain religious and spiritual concepts (Hill, Pargament, Hood, McCullough, Swyers, Larson & Zinnbauer, 2000; Thoresen, 1999), religious items from religiosity and spirituality can be clearly shown to be either measuring religiosity or spirituality concepts (Maltby & Day, in press) and can be separated out by differing significant relationships with measures of personality, cognition, and mental health (Hill, *et al*, 2000; Maltby & Day, 2001a; 2001b; Mueller, Plevak, & Rummans, 2001).

Despite the issues around the definition of spirituality, a wealth of research has focused around four main areas. A first, generally recognised aspect of spirituality, is meaning and purpose in life. For example, Carson, Soeken, and Grimm (1988) found that a sense of life purpose and satisfaction relate both to trait hope (hope as a personality characteristic; how one generally feels) and state hope (hope based on specific situations and times; how one feels at the moment). Also, in accord with Jung, studies in general show evidence for a negative relationship between meaning in life and depression (Carson, Soeken & Grimm, 1988; Klein, Kupfer & Shea, 1993; Richards, Owens & Stein, 1993; Seligman, 1990). A second aspect of spirituality is intrinsically held value systems. For example, research shows that those with a personal spirituality show less depression than those who are more publicly, or socially, oriented (Bergin, Masters & Richards, 1987; Genia & Shaw, 1991; Spendlove, West & Stanish, 1984; Watson, Hood, Foster & Morrison, 1988). A third recognised aspect of spirituality is Transcendence; research shows evidence that a belief in God strengthens feelings of hope, both state and trait hope (Carson, Soeken & Grimm, 1988; Richards, Owens & Stein, 1993). The fourth aspect of spirituality is shared values and support. For example, Anderson, Maton, and Ensor (1991) argue that communities of faith, where actions of singing, praying, chanting, or meditating with others, allows one to experience a sense of unity (Travis, 1988), which in turn, has an empowering effect (Rappaport & Simkins, 1991).

### **Modern theories of religion**

Religiosity is a multidimensional concept. Most agree that it involves a social institution with an organised system of beliefs, practices, rituals, and symbols designed to facilitate a relationship to an understanding of a deity [or deities] (Lowenthal, 1995; Thoreson, 1999; Wulff, 1997). Religions seek to promote understanding and harmony of a person's relationship to oneself and to others in living together in a community, and to a transcendent power in the universe. Primarily research suggests three main religious orientations; Intrinsic, Extrinsic and Quest.



First, is an *intrinsic* orientation toward religion, where individuals are described as living their religious beliefs, the influence of which religion is evident in every aspect of their life (Allport, 1966). Thus, those whose religion is intrinsic see religion as an end in itself; they really believe it, and take it very seriously (Beit-Hallahmi & Argyle, 1997). Allport argues that people with an intrinsic orientation find their master motive in religion, whereas other needs are regarded as less significant. Thus, having embraced a creed or religion, the individual endeavours to internalise it and follow it fully. It is in this sense that the individual lives their religion (Allport & Ross, 1967).

Second is an *extrinsic* orientation toward religion, which is defined as using religion to provide participation in a powerful in-group (Genia & Shaw, 1991); protection, consolation, and social status (Allport & Ross, 1967); religious participation (Fleck, 1981); and an ego defence (Kahoe & Meadow, 1981). This orientation, however, with the recommendation of authors such as Kirkpatrick (1989), and Leong and Zachar (1990), has more recently been divided into two dimensions of orientation; *extrinsic-personal* and *extrinsic-social*. An extrinsic-personal orientation towards religion is where individuals look to religion for comfort, relief, and protection, and using religious practices, such as prayer, for peace and happiness (Leong & Zachar, 1990; Maltby, Lewis & Day, 1999). An extrinsic-social orientation toward religion is when individuals look to church for making friends, creating social status, and being part of an in-group (Leong & Zachar, 1990; Maltby, Lewis & Day, 1999).

The third orientation toward religion, Quest, was conceptualised by Batson (1976); Batson and Gray (1981); and Batson and Ventis (1982), in response to dimensions felt lacking in the other two, such as complexity, incompleteness, flexibility, and tentativeness. Thus, the concept of Quest represents the degree to which a person's religion involves 'an open-ended, responsive dialogue with existential questions raised by the contradictions and tragedies of life' (Batson & Ventis, 1982, p. 154).

As well as three distinctions between religious orientations, researchers such as Pargament (1990, 1996, 1997; Pargament & Park, 1995) have reconceptualised some religious behaviours as ways of coping (Pargament, 1997). This theoretical perspective views religion as a coping process (Pargament, 1990; 1996; 1997; Pargament, Olsen, Reilly, Falgout, Ensing, & Vanhaisma, 1992; Pargament & Park, 1995). Pargament (1990; 1997) suggests that a religious coping model might better explain the relationship between religiosity and psychological well-being. He argues that such a theoretical model would address the complex and continuous process by which religion interlocks with an individual's life and allows them to deal with stresses in life. Pargament (1997) uses and extends coping theory, by arguing that religion may enter the coping process in a number of ways, with critical events, appraisals of situations, coping activities and outcomes, to which religion may be integral or external to these occurrences. Pargament views religious coping as a mediating factor in the relationship between religious orientation and psychological well-being. Pargament and his colleagues have developed a number of measures of religious coping, ranging from those that concentrate on problem areas of religious coping (Pargament, Zinnbauer, Scott, Butter, Zerowin, & Stanik, 1998) to identification of a number of dimensions of specific coping processes (Pargament, et al, 1992, 1996). However, Pargament, Smith, Koenig, and Perez (1998) suggest a two-factor model of religious coping in response to stressful life events; positive and negative religious coping. This model of coping encompasses a number of positive and negative religious coping styles including religious forgiveness, collaborative religious coping, spiritual connection, and religious purification. Religious coping is thought to be a stronger predictor than religious orientation measures for scores on psychological well-being; with religious coping mediating the relationship between religious orientation and psychological well-being (Pargament, 1997; Pargament, et al, 1998).

In addition to religious orientation and religious coping, one further aspect of religiosity seems congruous to Jungian ideas; that of religious experience.

William James (1902) was the first to investigate intense experiences of individuals, later work sampled the whole population, and was not confined to solitary experiences. There are several ways of assessing religious experience, from single questions, to national surveys (Beit-Hallahmi & Argyle, 1997). Although, there are suggested varieties of religious experience (e.g. Greeley, 1975; Hay, 1982; Hood, 1975; Moehle, 1983; Proudfoot, 1985), there is considered to be a general core. Thus, religious experiences convey, to those who have them, that they have been in contact with a very powerful being or force, whether they call this God, or not, (Greeley, 1975; Hardy, 1979; Hay, 1982; 1990); that there is a unity in the whole of creation (Hay, 1982; Hood, 1975; 1995; Smith & Ghose, 1989; Thomas & Cooper, 1978); that they feel united and feel love towards other people (Hardy, 1979; Pahnke, 1966; Wuthnow, 1978); they feel more integrated, and perhaps “forgiven” (Pahnke, 1966; Spilka, Brown, & Cassidy, 1992); they are happier (Brown, 1994; Greeley, 1975; Hay, 1982; Poloma & Pendleton, 1991); they have had experience of timelessness, perhaps eternity (Downing & Wygant, 1964; Poloma & Pendleton, 1989; Spilka, Brown & Cassidy, 1992); and they believe that they have been in contact with some kind of reality (Hood, 1977; Wulff, 1991; Wuthnow, 1978). Research on religious experience is plentiful, however, Beit-Hallahmi and Argyle (1997) argue that it should be kept in mind that most research has been carried out on British and USA samples, and that many of the descriptions used to measure religious experience (e.g. A feeling of deep and profound peace; A certainty that all things would work out for the good; Sense of my own need to contribute to others) would not be considered religious in many cultures. Nevertheless, definitions of religious experience are, in essence, similar to Jung’s descriptions of a numinous experience, and, thus, warrant investigation in this chapter.

### **Aims of the study**

To summarise, spirituality and religiosity were important concepts to Jung’s formulation of the importance of commitment to belief. At present, there is some support that commitment to belief is congruous with a number of Jung’s ideas.

Therefore, it is necessary to examine whether commitment to belief is something that falls outside spirituality and religiosity, or whether commitment to belief is simply a different way of measuring spirituality and religiosity. Empirical evidence suggests that spirituality and religiosity can be separated out into numerous, but definable, definitions. The aim of this study, then, is to consider the relationship between commitment to belief and a number of measures of spirituality and religion.

## **Method**

176 undergraduate students at Sheffield Hallam University (65 males, 111 females) aged between 18 and 58 years (Mean = 28.9, SD = 10.4) completed the following questionnaires. These respondents were the same sample that is reported in Chapter 8 of this thesis.

### Questionnaires

#### 1. The Commitment to Belief Scale.

2. The Spiritual Involvement and Beliefs Scale (Hatch, Burg, Naberhaus, & Hellmich, 1998). This scale was developed to create a more comprehensive and widely applicable instrument for the assessment of spiritual status, and the scale's items were sought from a number of perspectives (Christianity, Judaism, Islam, and Hinduism). Thus, the scale is a 26-item measure with four subscales that measure underlying principles that are shared by multiple spiritual approaches. The four subscales are:

- (i) *External/Ritual*, and typically address spiritual activities/rituals (e.g. “spiritual activities have not helped me become closer to other people” – item 5), or are consistent with belief in an external power (e.g. “a spiritual force influences the events in my life” – item 7);

- (ii) *Internal/Fluid*, includes both items that refer to evolving beliefs (e.g. “in the future science will be able to explain everything” – item 1) and many items that focus on internal beliefs and growth (e.g. “My spiritual life fulfills me in ways that material possessions do not” – item 14);
- (iii) *Existential/Meditative*, includes both items that refer to meditation (e.g. “meditation does not help me feel more in touch with my inner being” – item 16), and many items addressing more existential issues (e.g. “I have a personal relationship with a power greater than myself” – item 17); and
- (iv) *Humility/Personal Application*, dealing with humility (e.g. “when I wrong someone I make an effort to apologise” – item 20), and application of spiritual principles in daily activities (e.g. “I examine my actions to see if they reflect my values” – item 23).

Responses are scored as follows: for positively worded items, i.e. where answers indicating agreement seem more spiritual, responses are scored on a 5-point format from (1) Strongly disagree, through to (5) Strongly agree; for negatively worded items, where agreement would seem less spiritual, responses are scored on a 5-point format from (1) Strongly agree, through to (5) Strongly disagree; and for items 24 (frequency of prayer), 25 (frequency of meditation) and 26 (frequency of spiritual activity), responses are scored on a 5-point format from (1) Lowest frequency category, through (2) Next to lowest frequency, (3) Middle frequency, (4) Next highest frequency, to (5) Highest frequency. Hatch, Burg, Naberhaus, and Hellmich (1998) demonstrate that internal reliability statistics for three of the subscales are satisfactory (External/Ritual,  $\alpha=.98$ ; Internal/Fluid,  $\alpha=.74$ ; Existential/Meditative,  $\alpha=.70$ , but perhaps, as Hatch, *et al* (1998) suggest, not for the Humility/Personal Application sub-scale ( $\alpha=.51$ ). Similar internal reliability statistics have also been reported by Maltby and Day (2001). Validity has been satisfactorily demonstrated with measures of personality and health (Hatch, *et al*, 1998; Maltby & Day, 2001a; 2001b).

3. The Age-Universal I-E Scale-12 (Gorsuch & Venable, 1983; Maltby, 1999). This is a 12-item measure of intrinsic and extrinsic orientation towards religion that is based on the Religious Orientation Scale (Allport & Ross, 1967).

However, the Age-Universal I-E scale-12 differs from the Religious Orientation Scale in four ways. First, amendments to items that use simplified language to measure intrinsic and extrinsic orientation towards religion (Gorsuch & Venable, 1983). Secondly, suggestions that intrinsic and extrinsic orientations represent three religious dimensions; with an intrinsic orientation towards religion and the extrinsic dimension split into two dimensions, extrinsic-personal and extrinsic-social (Kirkpatrick, 1989; Leong & Zachar, 1990). Thirdly, changes to the response format of the scale (from an agree to disagree response format, to a Yes-No response format) that leads to a clear measurement of the intrinsic-extrinsic religious orientation (Maltby & Lewis, 1996). Fourthly, the original scale uses 20-items, however, after a factor analysis across 3300 USA, UK and Irish respondents, Maltby (1999) suggests that the intrinsic scale comprises 6 items (e.g. I try hard to live all my life according to my religious beliefs', 'My religion is important because it answers many questions about the meaning of life'), the extrinsic-personal scale comprises 3 items ('What religion offers me most is comfort in times of trouble and sorrow'; 'Prayer is for peace and happiness') and the extrinsic-social comprises 3 items ('I go to church mainly because I enjoy seeing people I know there'; 'I go to church mostly to spend time with my friends').

4. The Quest Scale (Batson & Schoenrade, 1991b): The scale is a 12-item version of the measure incorporating some amendments to the response format (changed from an 'agree' to 'disagree' format, to a Yes-No response format) of the scale (Batson & Ventis, 1991a; 1999b; Maltby & Day, 1998) and two re-written items to adequately measure the Quest dimension among religious and non-religious persons (Maltby & Day, 1998). The scale yields three measures of Quest; complexity, religious doubt, and religious tentativeness or openness to change. Example items include 'Questions are more central to my religious experience

than are answers' and 'As I grow and change, I expect my religion also to grow and change'. Reported internal reliability statistics are above .7 and the scale shows adequate validity in its relationship to other measures of religiosity (Batson & Ventis, 1991a; 1999b; Maltby & Day, 1998).

5. The brief Religious Coping Scale (RCOPE [Pargament, Smith, Koenig, & Perez, 1998a]). This religious coping measure is a 14-item indicator of a 2-factor model of positive and negative religious coping. This is a four-item scale and responses are scored on a four-point response format. Respondents are asked to identify how they respond to stress in accordance with a number of statements thought to reflect positive and negative coping. Positive coping items include; 'I looked for a stronger connection with God' [item 1], 'Focused on religion to stop worrying about my problems' [item 7], and negative religious coping items include 'Wondered whether God had abandoned me' [item 8], 'Questioned the power of God' [item 14]. The 4 point response format includes; 1=Not a lot; 2=A little; 3=A lot; and 4=A great deal, with higher scores indicating a higher level of positive religious coping for the first seven items, and a higher level of negative religious coping for items 8-14. Reliability and validity for both scales have been shown across a number of studies in relation to other measures of religiosity and psychological well-being (Pargament, 1998; Pargament, et al., 1998).

6. The Religious Experience Scale (Greeley, 1975; Maltby, 1999): The scale is an 18-item measure, with two items reversed, which give descriptors of religious experience. Individuals who are conceptualized as high in religious experience are those who have undergone a number of religious experiences that are believed to lend themselves to self-fulfillment (Wulff, 1997). The items for the scale are descriptors provided by Greeley (1975), listing, from a U.S.A. sample, examples of religious experience. Example items include 'Sense of my own need to contribute to others' and 'a conviction that love is the center of everything'. Maltby (1999) suggests the item usefulness as a measure of religious experience, when forwarded with the statement 'Consider the statements below. Have you ever experienced any of these feelings?' The scale demonstrates adequate

reliability and validity with a number of religious and personality measures (Maltby, 1999; Maltby & Day, in press). Responses are scored on a Yes-No format with higher scores indicating a higher level of religious experience.

## Results

Table 6.1 shows the Cronbach alpha statistics (Cronbach, 1951) computed for all the scales between the present sample and mean scores for all the variables by sex. All of the alpha coefficients are equal to or above the .7 criteria suggested for satisfactory reliability (Kline, 1986), with the exception of one, Humility/Personal application of spirituality. However, previous authors have reported that this subscale shows a similar low internal reliability (Hatch, *et al.*, 1998; Maltby & Day, 2001a; 2001b).

Further, females were found to score significantly higher than males on religious experience and negative religious coping; whereas, males were found to score significantly higher than females on intrinsic orientation toward religion, extrinsic-social orientation toward religion, and extrinsic-personal orientation toward religion. Though among the present sample, sex differences were found for only some of the religious measures, there is a consistent view that there are sex differences in religiosity, usually with women being significantly more religious than men (Beit-Hallahmi & Argyle, 1997; Francis & Wilcox, 1996; Wulff, 1997). Therefore, these differences, with the present sample, show some consistency with the present research, where women are scoring higher on religious measures. However, given that significant differences between the sexes for the scales did not occur for internal, stable, and global beliefs, and overall commitment to beliefs, and that previous chapters have also reflected no significant differences for sex with the Commitment to Belief scale, and given that there is no theoretical distinction proposed regarding sex differences and commitment to belief, the following analysis was performed with men and women combined.



**Table 6.1:** Alpha coefficients for all the scales and mean scores for all the variables by sex

Scale	$\alpha$	Men	Women	$t$
Internal Beliefs	.94	20.89 (13.4)	21.94 (11.6)	-0.55
Stable Beliefs	.88	27.15 (11.0)	25.17 (09.4)	1.26
Global Beliefs	.88	26.83 (11.3)	24.71 (09.4)	1.34
Overall Commitment	.95	74.87 (32.5)	71.82 (27.9)	0.66
Religious Experience	.70	27.86 (03.7)	28.91 (02.9)	-2.02*
Quest	.83	18.06 (05.1)	19.56 (06.1)	-1.64
External/Ritual Spirituality	.93	39.93 (13.9)	43.53 (14.7)	-1.53
Internal/Fluid Spirituality	.88	38.88 (10.3)	41.02 (11.3)	-1.21
Existential/Meditative	.78	20.52 (05.6)	21.44 (06.0)	-0.98
Humility/Personal Application	.45	15.97 (03.4)	16.52 (03.1)	-1.09
Intrinsic Religion	.90	14.83 (03.8)	13.34 (03.9)	2.26*
Extrinsic-social	.87	08.29 (01.3)	07.74 (01.7)	2.16*
Extrinsic-personal	.83	07.28 (02.3)	06.46 (02.1)	2.22*
Positive Religious Coping	.97	11.08 (06.6)	12.43 (06.9)	-1.14
Negative Religious Coping	.80	08.02 (01.7)	08.96 (02.9)	-2.06*

\* $p < .05$ ; \*\* $p < .01$

Pearson product moment correlation coefficient statistics were computed for each of the three aspects of internal, stable, and global beliefs, and an overall commitment to belief for the Commitment to Belief Scale, and all religious and spiritual measures.

Table 6.2 shows that a number of religious variables are significantly related to each other. Religious experience is positively significantly related to Quest, all subscales of spirituality, and positive religious coping; and is negatively significantly correlated to intrinsic, extrinsic-personal, and extrinsic-social orientations of religion. Quest is positively significantly related to all subscales of spirituality, and both positive and negative religious coping; and negatively significantly correlated to intrinsic, and extrinsic-personal orientations toward

religion. The External/Ritual, Existential/Meditative, and Humility/Personal application subscales of spirituality are all significantly positively correlated to each other, and negatively significantly correlated to both positive and negative religious coping. The Internal/Fluid subscale of spirituality is also positively significantly correlated to all other subscales of spirituality, and negatively significantly correlated to positive religious coping. Further, all orientations of religion (intrinsic, extrinsic-personal, and extrinsic-social) are all positively significantly related to each other, and negatively significantly correlated to both positive and negative religious coping. Positive and negative religious coping are also significantly positively correlated to each other. However, when considering the Commitment to Belief scale; internal, stable, and global beliefs, and overall commitment to beliefs were found to have no significant relationships to any of the religious and spirituality measures.

Table 6.2: Pearson Product moment correlation coefficient matrix for all the variables, and internal, stable, global and overall commitment to beliefs.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.Internal	-														
2.Stable	.71**	-													
3.Global	.70**	.86**	-												
4.O. Com	.89**	.93**	.92**	-											
5.Rel.Exp	.05	.04	.05	.05	-										
6.Quest	.02	.11	-.02	.04	.29**	-									
7.Ext/Rit	.09	.05	-.06	.04	.42**	.42**	-								
8.Int/Flu	.11	.11	-.02	.08	.41**	.48**	.95**	-							
9.Ex/Med	.09	.02	-.06	.03	.45**	.29**	.88**	.86**	-						
10.Hum/Per	.06	-.00	-.09	-.01	.37**	.30**	.66**	.63**	.59**	-					
11.Intrinsic	-.07	.00	.04	-.01	-.41**	-.24**	-.59**	-.50**	-.66**	-.35**	-				
12.Ext-Per	-.08	.04	.10	.02	-.19*	-.35**	-.40**	-.29**	-.38**	-.28**	.68**	-			
13.Ext-Soc	.04	-.04	-.15	-.05	-.30**	-.04	-.11	-.05	-.12	.05	.59**	.34**	-		
14.Pos RC	.07	-.04	-.03	.01	.35**	.23**	.66**	.54**	.74**	.49**	-.71**	-.55**	-.26**	-	
15.Neg RC	-.09	-.13	-.03	-.09	.07	.25**	.27**	.14	.24**	.21*	-.34**	-.29**	-.20**	.62**	-

\*\*p<.05, \*p<.01

**Key:** Internal=Internal Beliefs: Stable=Stable Beliefs: Global=Global Beliefs: O.Com=Overall Commitment to Beliefs: Rel.Exp=Religious Experience: Quest=Quest: Ext/Rit=External/Ritual spirituality: Int/Flu=Internal/Fluid Spirituality: Ex/Med=Existential/Meditative Spirituality: Hum/Per=Humility/Personal application spirituality: Intrinsic=Intrinsic religion: Ext-Per=Extrinsic-Personal: Ext-Soc=Extrinsic-Social: Pos RC=Positive Religious Coping: Neg RC=Negative Religious Coping.

## Discussion

The aim of the present study was to compare a number of different religious and spirituality measures with all aspects of the Commitment to Belief Scale (internal, stable, global, and overall commitment) in order to consider whether commitment to belief underlies actual beliefs of religion and spirituality, or whether commitment to belief lies as a similar principle, and is simply a different way of measuring these specific belief systems.

First, the comparison between the mean scores of the scales by sex among the present sample shows that there are sex differences when considering religion and spirituality, but no sex differences when considering all aspects of commitment to belief. This finding in itself suggests that, when measuring the specific scales of religion and spirituality, males and females perform differently, but not for commitment to belief

In terms of the main aims of the study, by using product moment correlation coefficients between all the measures, commitment to belief (internal, stable, global beliefs, and overall commitment to beliefs) is not correlated to any aspect of religion or spirituality. This is consistent with the view that commitment to belief can be used to measure strength within different types of belief, and the present findings suggest a move away from a direct comparison with Jung, and the emphasis he made on the importance of religion and spirituality. However, although the present findings suggest further construct validity for the Commitment to Belief scale, it is prudent to remember that the research was carried out on a university sample, and therefore, cannot be extrapolated to a wider population. Therefore, further research is needed to compare the present findings with different population samples.

Notwithstanding these speculations, the present findings support the argument for the concept of commitment to belief. Within this analysis, it has been demonstrated that commitment to belief is not simply another way of

measuring the specific beliefs of religion and spirituality. The present findings suggest a departure from Jungian theory, and suggest confidence in using the measure with other belief sets without the worry that the scale may reflect deeper aspects of religiosity and spirituality.

## **CHAPTER SEVEN**

Commitment to belief and stressful life events

## Summary

Chapters 2 and 3 consider the development and exploration of a measure of commitment to belief, chapters 4 and 5 consider Jungian concepts as theoretical guidance to commitment to belief, chapter 6 considers the implications on religiosity. Chapters 7 and 8 will aim to consider alternative models/explanations for the concept of commitment to belief, via modern cognitive variables.

The aim of the present study was to borrow aspects of Ellis's model of ABC to investigate whether commitment to belief does have a positive effect on an individual's mental health whilst dealing with a stressful life event. The purpose of this is twofold; (i) to consider whether Ellis (as a modern cognitive theorist) can provide further/better theoretical guidance to the theory of commitment to belief; and (ii) to operationalise commitment to belief, i.e. whether commitment to belief does, in fact, aid individuals to better deal with life's problems.

115 undergraduate students (30 males, 85 females) completed measures of commitment to belief, life events, and measures of depression, anxiety, social dysfunction and somatic symptoms. To test the Ellis model, those respondents who indicated that they used their beliefs to deal with a life event were scored on how committed they were to that belief set using the Commitment to Belief scale.

The overall chapter shows very little evidence for Ellis's model being able to give better theoretical guidance for the theory of commitment to belief, with commitment to belief only significantly correlated to somatic symptoms when related to a major life event. Discussions centre around prudence within the methodology, however, findings present some little support for Ellis's theory aiding the conceptualization of the relationship between commitment to belief and better psychological well-being; much more work is needed.

## Introduction

This thesis has presented a concept of commitment to belief as a possible explanation for positive effects of belief on mental health (i.e. why intrinsic religiosity may better benefit an individual as opposed to extrinsic religiosity; why belief in good luck may be more beneficial than a belief in bad luck etc). It has also attempted to provide theoretical guidance for the concept of commitment to belief by considering similar concepts proposed by Jung. Here, chapters four, five, and six presented interesting findings to suggest Jungian theory can inform us, to some extent, as to why a commitment to belief is important to mental health. Thus suggesting support and theoretical guidance for commitment to belief through some very old ideas within psychology.

However, there is a need within modern psychology, when dealing with psychoanalytic ideas, to examine such findings within the modern context to consider simpler, or alternative, explanations or ideas. This point is made vehemently by both supporters, and critics of psychoanalytic theory (e.g. Kline, 1981; Eysenck & Wilson, 1973), and, although these arguments are dealing specifically with Freudian theory, the points are valid within any psychoanalytic paradigms. Thus, the next two chapters will aim to consider alternative models/explanations for the concept of commitment to belief. As well as this, however, it is important to remember that findings so far, although interesting and suggestive of Jungian thinking, have been inconclusive. Thus, adding to the need to investigate modern theory in order to better inform the concept of commitment to belief.

Therefore, chapters seven and eight will investigate whether the concept of commitment to belief can gain further, or alternative, support/guidance via modern paradigms, or indeed, whether commitment to belief fits best within Jungian theory. This will be considered in two main ways; (i) chapter seven will attempt to conceptualise what is happening with commitment to belief by borrowing a well-established model (Ellis's ABC model of belief); chapter eight will consider alternative explanations for commitment to belief through the cognitive variables of coping and stress.



## Conceptualising commitment to belief and its positive effects on mental health

This thesis has, so far, presented the argument that a commitment to belief may help to understand why certain (specific) beliefs have a positive effect on mental health, as opposed to a detrimental effect. For instance, when considering the positive illusions around a belief in *good luck*, findings show an increase in feelings of confidence, control and optimism, increasing self-esteem, and reducing levels of depression and anxiety (Darke & Freedman, 1997a; Day, Maltby & Macaskill, 1999; Day & Maltby, in press; Taylor & Brown, 1988); as opposed to detrimental effects related to belief in *bad luck*. Similar findings have been found for an intrinsic orientation towards religion (e.g. Genia, 1991; 1996; Genia & Shaw, 1991; Maltby, 1999; 2000; Maltby, Lewis & Day, 1999), as opposed to an extrinsic orientation towards religion.

This commitment to belief becomes apparent through individuals who are defined as having an intrinsic orientation to religion, as they are described as living their religious beliefs, the influence of which, religion is evident in every aspect of their life (Allport, 1966). Within this perspective, an individual lives, and is committed to, their belief (e.g. intrinsic religion), thus internalising or making it personal, and using it to give meaning and control over their lives, as opposed to an individual who is using it to serve more external purposes (e.g. extrinsic religion). Therefore, it is argued that it is the commitment/strength of belief that may be integral to the positive effect on a person's psychological well-being. Similarly, belief in good luck is seen as an attempt to understand the world, particularly in response to events in our lives that are largely beyond any direct attempts to control (Darke & Freedman, 1999). The uncertainty associated with the possibility that such events may occur can be quite disconcerting, especially when the consequences are substantial. Rothbaum, Weisz & Snyder (1982) suggest that irrational beliefs about luck may allow individuals to remain optimistic even when it is objectively impossible to exercise direct control over one's circumstances. As such, it is this belief that gives meaning to life and events, and adherence to this belief set helps the person interpret, understand and deal with the world.

The aim of this chapter then is clear; by borrowing Ellis's model of ABC, the model can be used to investigate whether commitment to belief does have a positive effect on an individual's mental health whilst dealing with a stressful life event. The purpose of this is twofold; (i) to consider whether Ellis (as a modern cognitive theorist) can provide further/better theoretical guidance to the theory of commitment to belief; and (ii) to operationalise commitment to belief, i.e. whether commitment to belief does, in fact, aid individuals to better deal with life's problems.

### **Can Ellis's ABC model help understand the process of commitment to belief?**

Within modern psychology, there are a number of concepts that could be considered to explain the mechanisms of commitment to belief, and its relationship to psychological well-being, that work outside, or alongside, Jungian theory. One such theory is Ellis's model of ABC (Ellis, 1973; 1994).

Indeed, when considering Jungian theory, it is apparent that many aspects of his theory echoes elements of cognitive dynamics, in a number of ways; Ellis believes that belief is fundamental to mental health, as these goals, purposes, and values underlie attempts to be happy and satisfied. This is best demonstrated when considering his ABC format of human disturbance, within Rational Emotive therapy, where there are suggested effects on the activating experience and the consequence by the said belief, as well as these, then, effecting the belief. In other words, belief (B) is fundamental and affects both the activating experience, or perception (A) and the cause, or consequence (C), which in turn, A and C then reinforce B. This theory demonstrates a similar concept as to how Jung believes that strong belief has effects on both how a person sees the world, and how that person then deals with situations.

It is clear then, that the origins and dynamics of commitment to belief can not only be seen within Jungian theory, but could also be working within the realms of cognitive psychology. These similarities require further investigation, and will be considered by examining the impact of Ellis's model of ABC to show a dynamic to commitment to belief, i.e. providing a basis for understanding the relationship of belief processes.

However, it must be made clear, here, that Ellis is being considered as a way to help conceptualise what is happening with belief, and this thesis is not necessarily opposing the ideas of Ellis (i.e. with regards to his theory of irrational beliefs) or looking to replace it in the literature; put simply, it is a good model in which to enable investigations of belief to take place.

First, however, it is important to summarise the basic concepts of Ellis, considering both similarities and differences to Jungian concepts on belief, in order to better understand the relationship of belief processes.

### **Ellis: providing a basis for understanding the relationship of belief processes**

Ellis's Rational-Emotive Therapy (Ellis 1994; 1973) proposes both core beliefs, and goal-related beliefs, and assumes that all individuals have goals, purposes and values that underlie attempts to be happy or satisfied (Grieger & Boyd, 1980). Like Jung, Ellis also suggests a theory of self-actualisation, of realising one's potential. Rational Emotive Behaviour therapists teach their clients how to overcome their emotional and behavioural problems in order to help them 'actively to seek and arrange for a fuller, happier, and more self-actualising existence' (Ellis, 1993a, p.25). Clients are encouraged to individually choose goals, which emphasise self-actualisation (e.g. becoming self-employed; Dryden & Neenan; 1997), and are taught how to tackle the various blocks standing in the way of such goals. Self-actualisation is more likely to occur if clients develop flexible beliefs in the form of *preferences* (evaluative belief couched in the form of a flexible wish, want, hope, desire, etc.) rather than rigid beliefs in the form of *demands* (rigid and dogmatic evaluative belief couched in the forms of an absolute must, should, ought, have to, got to).

Rational Emotive Therapy has become one of the major approaches to psychotherapy today, and in many respects, has a simple and easily expounded theory of human disturbance, and of effective methods for helping people overcome their emotional problems (Ellis, 1977b). At the same time, this theory has many

ramifications and complications; however, Ellis states clearly the importance of belief.

The basic theory of Rational Emotive therapy has several important aspects, and includes a number of hypotheses, many of which have been supported in a number of empirical, controlled studies (e.g. Bernard & Guiseppe, 1989; Chang, 1997; Ellis, 1962; Ellis & Grieger, 1977; MacDonald & Games, 1972; Mahoney, 1997; Watson, Vassar, Plemel, Herder & Manifold, 1990). For the purpose of this thesis, however, only his connection to beliefs will be presented. With first a brief overview of what is classed as an irrational belief.

Ellis assumes that all individuals have fundamental goals, purposes and values that underlie attempts to be 'happy' or 'satisfied' (Ellis, 1980) in all areas of life. According to Ellis, if people choose to stay alive and try to be happy, they act 'rationally' or 'self-helpfully' (Ellis & Bernard, 1985) when they think, emote or behave in any way that abets these goals (Bordin, 1979); and when they act 'irrationally' or 'self-defeatingly' then they sabotage their own goals. This general premise is the crux of Ellis's therapy, and which, in brief, attempts to change irrational beliefs into rational ones.

Clearly, Ellis's concept of belief is fundamental to mental health, demonstrated when considering his ABC model of human disturbance. Rational-emotive therapy holds that individuals practically never think, emote or behave in a pure or monolithic way (Grieger & Boyd, 1980). Instead, when they 'emote' they also think and act; when they 'act' they also think and emote; and when they 'think' they also emote and act. Ellis argues that what we conventionally label 'emotions' and 'feelings of emotional disturbance' are largely, but not exclusively, the direct concomitants of people's thoughts, ideas, or constructs (Ellis, 1957; Ellis, 1962; Ellis, 1975; Ellis & Harper, 1961a; Epictetus, 1899; Kelly, 1955; Phillips, 1956).

When people are consistently 'emotionally disturbed' or self-defeating, Ellis puts their disturbances into an ABC format. At point **A**, they have **Activating Experiences** of an unpleasant nature (e.g. they fail at a task they consider as important). They bring certain goals, purposes, or values to these A's, and are

thwarted in achieving these goals. They then feel and act ‘disturbedly’ at C – their emotional and behavioural **Consequences** (e.g. they feel hurt and depressed at failing at A, and withdraw from attempting the task again). Reactions at C, according to Ellis, are *caused* by B – people’s **Belief System** about what happens to them at A.

Mostly, according to rational-emotive therapy, people believe a set of rational beliefs, and if they stayed with these they would only tend to have appropriate consequences, e.g. feelings of annoyance etc., when failing at A; and would gain a determination to not have these consequences (annoyance) by going back to their Activating Experience (A) and trying again. However, when inappropriate Consequences occur (e.g. depression and withdrawal) they usually avoid the same Activating Experiences, and set up an irrational belief.

Rational-emotive therapy categorises the main irrational beliefs generally held by people into 10-12 major headings (Ellis, 1962; Ellis & Harper, 1961a), and more recently 3 major ones (Ellis, 1977a; Ellis, 1977b; Ellis, 1975; Ellis & Abraham, 1978), each with many derivatives. These are; 1) ‘I must do well and win approval for my performances, or else I rate as a rotten person’; 2) ‘Others must treat me considerately and kindly, in precisely the way I want them to treat me; if they don’t, society and the universe should severely blame, damn, and punish them for their inconsiderateness’; and 3) ‘Conditions under which I live must get arranged so that I get practically everything I want comfortably, quickly and easily, and get virtually nothing that I don’t want’.

Ellis’s theory, then, shows clearly that beliefs are extremely important to mental health, albeit; he concentrates on ‘irrational beliefs’. However, some researchers have asserted that there are ambiguities surrounding what people classify as irrational; and whether these are actually representing a detriment to mental health (Darke & Freedman, 1997a; Day, Maltby & Macaskill, 1999). For example, if we consider some of the examples of irrational behaviour Ellis uses under his first major category, we can immediately see a conflict of opinions:

Example 1: 'I desperately need others to rely and depend upon; because I shall always remain weak. I also need some supernatural power on which to rely, especially in times of severe crisis.'

Example 2: 'I must understand the nature or secret of the universe in order to live happily in it.'

Firstly, in the first example, it can be seen here that the person is looking for a belief in order to give strength in times of crisis, which can give them support and help, which then leads to better mental health. In the second statement there seems to be a mention of seeking for understanding and meaning in life, which, through research presented so far, leads to well-being. An explanation for why these statements are detrimental to a person could actually be that they are presenting a genuine attempt at achieving a needed belief, but failing. Jung (1958) presents neurosis as individuals who are constantly questioning their beliefs/religion, and frequently changing them. Thus, suggesting that it is not the belief itself that is detrimental, but that they have weak or faulty belief structures.

Alternatively, however, it may also be argued, here, that Ellis' definition of rational/irrational is mostly subjective to the individual, i.e. Ellis is specifically interested in promoting attainment of a person's goals in order to promote better mental health, and such, if a belief in luck, for example, helps a person to attain their goals then this belief should not necessarily be considered as irrational. Thus, luck is only irrational within a scientific model, and must be considered subjectively with each individual's construct of this said belief.

Nevertheless, Ellis provides a sound model for how beliefs affect behaviour and mental health, demonstrating the great significance of the belief itself. In commitment to belief, it has been argued, and some evidence found in previous chapters, that it is the strength of the belief that is important, and not the type of belief. Ellis's model of ABC gives a useful structure as to how this may be occurring, i.e. that commitment to belief may be working on the same principles as the ABC model. This could be demonstrated by the use of life events, or life changes, that are considered stressful, i.e. whether an individual suffering a stressful life event

(activating experience) is better able to cope, thus leading to better mental health (consequence) due to a commitment to belief (belief).

### **Considering stressful Life Events**

Life Events, or Life change, theory explains stress by reference to life changes that require major adaptations by the person. Death of a spouse, bankruptcy, loss of a job, or life-threatening illness fit the definition of major events that require substantial personal adjustment. Thus, change causes stress; and almost any change in our lives is a stressor because there is a demand on us to deal with the new situation (Selye, 1982). Stress is thought to be both bad and good (Holmes & Rahe, 1967). Bad stresses (percentages estimate the difficulty in managing that particular stress relative to death of a spouse, which is 100%) include: death of spouse (100%), divorce (73%), serious illness (53%), loss of job (47%), change occupations (36%), have more arguments with spouse (35%), and so on. Good stresses include: falling in love and getting married (50%), reconciliation after a separation (45%), retirement (45%), having a baby (39%), buying a house (31%), get promoted (29%), having an unusual success (28%), graduate (26%), find new friends (18%), and take a vacation (13%). The more of these major life changes, good or bad, that have occurred in a person's life during the last year or two, the greater the chances of that person becoming physically or emotionally ill (Holmes & Rahe, 1967).

However, there are criticisms to this theory; the Hassles and Up-lifts Model (Lazarus, 1984) reflects the view that micro-stressors, in the form of perceived minor irritations or demands, and pleasures, also have an impact on health outcomes. This view is in response to criticisms that life events theory ignores psychological mediators, such as the saliency of an event and the individual's coping resources for dealing with the event. Given the relational view of stress and coping, Lazarus argued that the effects of life events on health outcomes vary depending on the meaning of the events to the individual. For example, divorce for one individual might be a major loss, whereas for another individual it might be a relief and an opportunity to grow and move forward in life. Lazarus argued that a difference in cognitive appraisal of the same event would likely lead to the event having different effects on health

outcomes. In addition, the Hassles and Uplifts Model proposes that events that are perceived as negative versus those perceived as positive will have different effects on health, and that day to day events that have positive tones or uplifts act as buffers for the negative effects of stressors on health. This, again, is in contrast to the assumptions in life event theory that any change, no matter the emotional tone, would negatively affect health outcomes. Another criticism is that major life events do not consider the small stressors that may work on a more cumulative effect and so be more detrimental, i.e. a divorce is a major upset, but it is the smaller cumulative effects of, for example, changes in daily routines and patterns at meal time, household management, lack of constant companionship etc. that can have a greater effect than a distant life event. However, the life event theory argues, in return, that life event theory is not simply that major changes in life occur but it is because of all the cumulative changes that occur from this event that it is so stressful, and requires such major adaptations for this person.

However, when considering stressful life events in context of this thesis, the emphasis is made upon major life changes, i.e. using belief to give meaning and control over their lives, as opposed to an individual who is using it to serve more external purposes (e.g. extrinsic religion); similarly, the literature sees belief in good luck as an attempt to understand the world, particularly in response to events in our lives that are largely beyond any direct attempts to control (Darke & Freedman, 1999). Therefore, although it must be acknowledged that life event theory is not without criticisms, for the purpose of this study, i.e. to consider whether people can better cope with major upheavals, life event theory and not daily hassles was considered more appropriate.

### **Using life events with Ellis's ABC format**

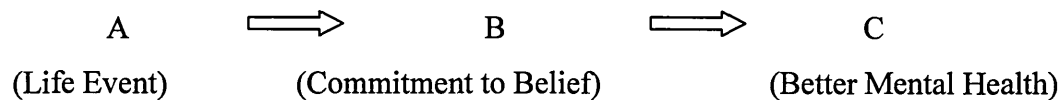
One of the purposes of this chapter, then, is to consider whether Ellis's model of beliefs can be used as an implement to investigate whether a commitment to belief is beneficial to mental health when an individual has to deal with a major life event. Thus, for example, when considering commitment to belief in the ABC context, a life event, such as divorce, could be seen as an activating experience (A), if the individual



has a strong and committed belief system (B), such as believing that no matter how hurt they feel, they can find meaning to the experience (i.e. that all things happen for a good reason, or it happened because they need to further develop and were being restricted in doing so etc), then consequences of this life event (C), albeit stressful, will, in the long term, be beneficial to mental health, giving the individual added strength to deal with adversity, which in turn, reinforces their beliefs etc.

It is prudent, then, to examine the dynamics of Ellis's ABC format whilst using the Commitment to Belief scale, to consider whether commitment to belief is related to the ABC model.

Therefore, by using the ABC format, a model can be devised:



Thus, the aim of this chapter is to investigate whether commitment to belief and its relationship to better psychological well-being can be considered within the ABC model.

## Method

115 undergraduate students at Sheffield Hallam University (30 males, 85 females) aged between 18 and 58 years (Mean=29.07, SD=10.9).

## Questionnaires

All respondents completed a questionnaire, which included the following scales;

- (i) The Commitment to Belief scale: see chapter two for full details
- (ii) Life Events Scale for Students: LESS (Clements & Turpin, 1996). The scale is a checklist measure of Life Events intended for use in stress

research using undergraduate populations. Since undergraduate samples are readily accessible, and frequently experience periods of institutionalized stress (i.e. examinations), they provide a useful, if specialized, population for 'stress' research. Accordingly, several life event scales have been developed to assess the relationship between 'life event stress; and health and psychological functioning in undergraduate populations (Constantini, Braun, Davis & Iervolino, 1974; Crandall, Preisler & Aussprung, 1992; Sarason, Johnson & Siegel, 1978; Zitzow, 1984). However, these have been targeted at American students. The content of these scales appears to reflect differences in the lifestyles of British and American students. Some also include a large number of vague or nonspecific events. The LESS scale is a validated life event scale for use with British undergraduates. The scale comprises 36 items, which describe specific life events. Subjects are asked to rate the stressfulness of each event, in terms of the amount of adaptation they would require, for the average student. All ratings were to be in relation to event number one "Death of a Parent", which was given a rating of 100. Reliability for the scale is consistent with those reported for other life event scales (Paykel, 1987; Zimmerman, 1983), however it was reported that, in common with other life event scales, it is only likely to provide accurate reports when used to assess events happening in the recent past. Validity for the scale is found by students reporting high levels of stressful life events also reporting greater psychological disturbance on the General Health Questionnaire (Goldberg & Williams, 1991), also that the relationship between life events and psychological disturbance is not an artifact of stable individual differences in negative affectivity, vigilance or repression-sensitisation (trait measures).

However, because this study is only interested in measuring whether a person has experienced a major life event, in order to consider whether their beliefs helped them to deal with that event, it was considered unnecessary to measure how stressful that event was. Therefore, the responses to the scale were not computed.

After completion of the LESS scale, students were then asked to consider one of the stressful events that they had indicated experiencing. Then, using the 'desirable' constructs that they had formulated from the Commitment to Belief questionnaire, they were asked to indicate whether any of the constructs formulated enabled/helped them deal with the problem, via a Yes/No response. If they marked a 'yes' response, they were then asked to indicate how many, and, specifically, which, constructs they had used.

(iii) The General Health Questionnaire: GHQ (Goldberg & Williams, 1991).

This scale contains four sub-scales that measure aspects of general health. Each of these sub-scales comprise 7-item measures of; depressive symptoms (e.g. 'Felt that life is entirely hopeless' [item 23]); anxiety symptoms (e.g. 'Been getting scared or panicky for no good reason' [item 12]); social dysfunction (e.g. 'Been taking longer over the things you do' [item 16]); and somatic symptoms (e.g. 'Been feeling run down and out of sorts' [item 3]). Scores are recorded on a four point response format, from 0 = 'Better than usual', 2 = 'Same as usual', 3 = 'Worse than usual', through 4 = 'Much worse than usual'. The scale demonstrates satisfactory reliability and validity across a number of samples (Goldberg & Williams, 1991).

## Results

Table 7.1 shows the Cronbach alpha statistics (Cronbach, 1951) computed for all the scales between the present sample and mean scores for all the variables by sex. All of the alpha coefficients are equal to or above the .7 criteria suggested for satisfactory reliability (Kline, 1986), with the exception of stable and global beliefs. This is not consistent with previous studies within this thesis, where consistent satisfactory reliability has been found, thus present findings must be considered as due to the present sample, with caution to further reliability exploration in future studies. Nevertheless, for the purposes of this particular study only overall commitment to

belief (the model only applicable to overall belief, and not to factors of belief) will be taken forward.

Further, females were found to score significantly higher than males on internal beliefs, somatic symptoms, anxiety, and depression. Again, internal beliefs have, so far, not been found to be dependent on sex differences, and may reflect a difference to the present sample. Also, the findings that females score higher on anxiety and depression are consistent with reports made by previous authors using the test (Goldberg & Williams, 1991). However, given that significant differences between the sexes for the scales did not occur for overall commitment to belief, and that previous chapters have also reflected no differences for sex, the following analysis was performed with men and women combined.

**Table 7.1:** Alpha coefficients for all scales and mean scores for all variables by sex.

Scale	$\alpha$	Men	Women	$t$
Internal Beliefs	.72	13.80 (10.4)	20.42 (10.7)	-2.94**
Stable Beliefs	.59	23.80 (11.6)	24.75 (08.7)	-0.47
Global Beliefs	.67	25.13 (11.5)	23.48 (08.5)	0.83
Overall Commitment	.88	62.73 (28.9)	68.66 (24.9)	-1.07
Somatic Symptoms	.86	05.60 (02.8)	07.68 (04.6)	-2.31*
Anxiety	.89	06.73 (03.1)	09.66 (04.9)	-3.03**
Depression	.91	05.60 (02.9)	07.42 (03.4)	-2.56*
Social Dysfunction	.74	04.07 (02.9)	04.89 (04.1)	-0.99
CTB helped with life events	-	01.20 (00.4)	01.19 (00.4)	0.14
No. of CTB with life events	-	01.73 (01.7)	02.39 (01.9)	-1.68

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

Table 7.2 shows how many generated constructs individuals actually used to help with their stressful life event. From the sample of 115 students asked to rate a yes/no response to whether any of the constructs formulated from the Commitment to Belief Scale helped them to deal with the event, 93 students (80.9%) answered 'yes', and 22 students (19.1%) answered 'no'. Most people who answered 'yes' tended to use one strong belief (30 people), with only 3 people using all seven belief constructs.

Because this study is concerned with considering the ABC model, which measures whether commitment to belief is related to mental health and a given life event, only people who answered ‘yes’ will be taken forward in the analysis.

Table 7.2: Frequency table showing number of beliefs used to help with stressful Life Event.

Number of constructs used to help with Life Event	Frequency of People	Percentage of People %
0	22	19.1
1	30	26.1
2	18	15.7
3	14	12.2
4	18	15.7
5	6	5.2
6	4	3.5
7	3	2.6
Total using no beliefs	22	19.1
Total using beliefs	93	80.9

In order to measure the ABC model, the beliefs used to help with life events need to be taken forward to measure their relationship to mental health. This was done by calculating a commitment to belief score using only those ratings for internal, stable and global aspects for those beliefs identified as helping with life events.

However, as it stands, those people using one belief will score lower than those using seven, when in fact, they are equally valid and important when helping to overcome stressful life events. Therefore, an average score was calculated for each person by computing an overall score, and then dividing this by the number of belief constructs they used. Thus, for example:

Person 1: States that they used one belief construct to help them.

Therefore the total score for the internal, stable and global ratings for that one construct was computed, and then divided by 1 (the number of belief constructs).

Person 2: States that they used 5 belief constructs to help them.

Therefore the total score for the internal, stable and global ratings for the five constructs was computed, and then divided by 5 (the number of belief constructs).

In addition, scores for the commitment to belief scale in its original format were computed to provide a comparison with previous research.

Pearson product moment correlation coefficient statistics were computed for overall commitment scores of belief used to help with the stressful life event, and all four dimensions of the General Health Questionnaire.

**Table 7.3:** Pearson Product moment correlation coefficient matrix for all the variables, and overall scores of beliefs used.

	SS	Anx	Dep	SD	CTB
1. Total score of beliefs used	-0.07	-0.17	-0.18	-0.31**	0.84**
2. Somatic Symptoms		0.63**	0.56**	0.42**	-0.09
3. Anxiety			0.56**	0.38**	-0.17
4. Depression				0.37**	-0.08
5. Social Dysfunction					-0.34**

p<.05\*, p<.01\*\*

CTB=Commitment to belief scale in original format.

Table 7.3 shows that all aspects of the General Health Questionnaire are all related to each other. However, overall scores of beliefs used to help individuals with stressful life events is negatively significantly correlated to social dysfunction, but not somatic symptoms, anxiety, or depression. This may suggest that using beliefs to aid

life events only helps to alleviate social dysfunction. To confound this, however, overall commitment to belief scores, in its original format, were also significantly negatively related only to social dysfunction, and not to somatic symptoms, anxiety, or depression. This is not in keeping with findings in previous chapters, where overall commitment to belief has been found to significantly correlate with all the measures of general health, suggesting a failure to replicate previous findings among the present sample. This finding, then, could be unique to the present sample. However, when considering that social dysfunction is solely correlated to both overall scores of beliefs used to help individuals with a stressful life event and the original overall commitment to belief dimension; it is unclear which accounts for unique variance. In other words, whether or not the item of scored beliefs used to deal with life events is a real construct, or whether simply using the commitment to belief scale in its original format would have identified this finding. For this purpose, then, regression analysis was performed.

Table 7.4: Regression analysis for social dysfunction using overall commitment to belief in its original format and overall scores of beliefs used.

	N=93		
	B	<i>B</i>	<i>sr</i> <sup>2</sup>
Social dysfunction			
Factor 1 – Overall	-0.01	-0.68	0.46**
Commitment			
Factor 2 – Overall	0.21	0.26	0.07
scores of beliefs used			
		<i>R</i> <sup>2</sup>	=0.23
		<i>Adj R</i> <sup>2</sup>	=0.21
		<i>R</i>	=0.48**

Table 7.4 shows the results of the standard multiple regression analysis performed with social dysfunction used as the dependent variable and overall commitment to belief in its original format and overall scores of beliefs used for stressful life events considered as the independent variables. Included in this table are the unstandardized regression coefficient (B), the standardized regression coefficient (*B*), the semi-partial

correlations ( $sr^2$ ),  $R$ , and adjusted  $R^2$ . The regression statistic ( $R$ ) for somatic symptoms was significantly different from zero ( $F(2,86)=12.73$ ,  $p<.001$ ). For social dysfunction, overall commitment to belief, in its original format, accounts for unique variance in the prediction of this well-being measure.

## Discussion

This chapter has begun to explore the relationships between commitment to belief, and Ellis's model of ABC, in order to identify whether this model could provide a further understanding to the relationship between commitment to belief and psychological well-being. In other words, a stressful life event (an activating experience: A) would be related to commitment to belief (belief: B), which would then be related to better psychological well-being (consequence: C).

Findings showed that most of the sample (80%) was actually using commitment to belief to help them with their stressful life events. However, findings demonstrated that this did not help participants alleviate somatic symptoms, anxiety or depression. Nevertheless, it was found that using their committed beliefs to aid them with the stressful life event did, in fact, alleviate social dysfunction. This finding suggests that among people who suffer a stressful life event, and use their beliefs to deal with this event, are those who have a strong commitment to belief, and are able to function with everyday tasks, and life, more easily. Further research is needed to examine whether this finding is peculiar to life events, or whether further consideration can be made with looking at a more everyday stressful event.

However, when considering that social dysfunction is solely correlated to both overall scores of beliefs used to help individuals with a stressful life event and the original overall commitment to belief dimension, a multiple regression shows that it is commitment to belief in its original format that actually accounts for unique variance. In other words, this suggests that the item of scored beliefs used to deal with life events may not be a real construct, and that simply using the commitment to belief scale in its original format would have identified this finding. Thus, this casts doubt on the usefulness of the theory put forward in this chapter, or perhaps, the method



used to consider the theory. This can only be addressed by replicating the current findings.

There are also other problems to be considered with regards the actual sample, for instance, reliability statistics were not confirmed for global and stable aspects of belief; a gender difference was found for internal beliefs, with females scoring significantly higher than males on this dimension, where no gender differences have been found in all previous studies; and overall commitment scores, in its original format, were significantly related only to social dysfunction, whereas findings in chapter two found overall commitment to belief to be significantly correlated to all aspects of the general health questionnaire. These conflicting findings are hard to explain, they may simply be due to the present sample, in which case all findings should be examined with caution until replication can be established; other explanations for these findings are not so easily explained, and again needs further investigation.

Nevertheless, it is important to remember that 80% of the total sample did report that they used their beliefs to help them deal with stressful situations. Thus, the issue may be one of methodology, i.e. it is assumed that effects on psychological well-being are of long-term benefit as it is assumed that people use these beliefs again and again. However, when measuring belief's effects on a specific event (i.e. stressful), it may need to be carried out much nearer to the event itself in order to establish the belief's direct effect. Therefore, a much smaller time frame than 3 months should be considered in future research to tighten up the methodology used. Indeed, when measuring life events, authors report that assessing events in the recent past are essential, as after one month subjects report 0.6 fewer events, a decrease of 13%, after 6 months the fall off is more substantial, subjects reporting just over 1.5 fewer events, a decrease of around 39% in the number of events reported (Clements & Turpin, 1996).

It should also be considered, when using a measure of life events, the criticisms of this theory; that life events theory ignores psychological mediators, such as the saliency of an event and the individual's coping resources for dealing with the event; that a major life event, for example, divorce for one individual might be a

major loss, whereas for another individual it might be a relief and an opportunity to grow, thus different cognitive appraisals of the same event would likely lead to the event having different effects on health outcomes; and finally, it can be argued that positive tones or uplifts can act as buffers for the negative effects of stressors on health. Therefore, these issues may have an effect on individuals who use belief to aid them with stressful events, i.e. they may see the event as an opportunity to grow and move forward in life, thus not considering the event as particularly stressful. Lazarus's theory of hassles and uplifts (1984) may perhaps be a better indicator in future research.

Methodology issues certainly seem to be an issue, here, and if this study is revisited, it should consider a more comprehensive research programme, looking at commitment to belief and stress. This study has established that people are reporting the use of beliefs to help them overcome stressful events in their life, but it does not inform us of the psychological mechanisms that they are using. This may not be possible through an Ellis explanation, indeed, it could be argued that testing this way oversimplifies Ellis's process model, which is really immensely complex and seldom has only one belief operating at a time, but rather complex interactions of beliefs, not all of which are in consciousness. Although this study was only considering Ellis's model as a way to operationalise commitment to belief, and not to test Ellis' model per se, this may have added to the problems. Thus, other theories of stress may better help to explain this relationship; some of which are covered, and investigated, within the following chapter.

To sum, though intriguing, the present findings suggest little overall support for Ellis's theory aiding the conceptualization of the relationship between commitment to belief and psychological well-being; with only some support that commitment to belief may aid an individual to engage in everyday life after a stressful event. Also, that, so far, modern paradigms of belief allow no further theoretical guidance to the theory of commitment to belief, and, as such, Jungian theory is still the better guide.

## **CHAPTER EIGHT**

Commitment to belief, primary appraisals and coping

## Summary

Chapter seven began to consider alternative models/explanations for the concept of commitment to belief, via Ellis's ABC model, with only some support that commitment to belief may aid an individual to engage in everyday life after a stressful event, and problems raised through the chapter's methodology. Chapter eight proposes further consideration of alternative models for a theoretical context, by using a cognitive-phenomenological model of stress, and coping theory. Thus, consideration is made, as a basis for speculation, through the use of measurement and theory around (1) stress appraisals, (2) coping, and (3) optimism.

176 undergraduate students (65 males, 111 females) completed measures of commitment to belief, stress appraisals, coping style, optimism, and measures of depression, anxiety, social dysfunction and somatic symptoms. The present findings suggest that mechanisms, such as positive behaviours of optimism, challenge appraisals, positive reinterpretation and growth, are not only related to a strong commitment to belief, but may also help explain the relationship between commitment to belief and psychological well-being. Further, the relationship between commitment to belief and these positive behaviours provide further support that the relationship may be best conceptualised within Jungian psychology, rather than outside Jungian psychology.

## Introduction

Chapter seven presented an argument for the need to consider alternative models/explanations for the concept of commitment to belief. As well as this, it was argued that attempts to gain theoretical guidance from Jungian theory had produced findings that were interesting and suggestive of Jungian thinking, but had, so far, been inconclusive. Thus, adding to the need to investigate modern theory in order to better inform the concept of commitment to belief.

Therefore, it was suggested that chapters seven and eight should investigate whether the concept of commitment to belief could gain further, or alternative, support/guidance via modern paradigms (particularly cognitive theory), or indeed, whether commitment to belief fits best within Jungian theory. Chapter seven attempted to conceptualise what is happening with commitment to belief by borrowing a well-established model (Ellis's ABC model of belief), however, although intriguing, findings suggest little overall support for Ellis's theory aiding the conceptualization of the relationship between commitment to belief and psychological well-being; with only some support that commitment to belief may aid an individual to engage in everyday life after a stressful event. Also, that, so far, modern paradigms of belief allow no further theoretical guidance to the theory of commitment to belief, and, as such, Jungian theory is still the better guide. However, major problems with the methodology were raised, suggesting a need to consider other theories of stress to better explain this relationship.

Therefore, chapter eight will attempt to provide further/alternative theoretical and empirical support for the relationship between commitment to belief and psychological well-being through the cognitive variables of coping and stress. Here, consideration will be made, as a basis for speculation, through the use of measurement and theory around (1) stress appraisals, (2) coping, and (3) optimism.

## 1. Primary Stress Appraisals

While acknowledging that the appraisal literature is large (e.g. Frijda, Kuipers & Schure, 1989; Smith & Ellsworth, 1985; Wiener, 1985) the theoretical framework for the analyses offered in this chapter will be based on the cognitive-phenomenological model of stress proposed by Lazarus and Folkman (1984), and expanded by Ferguson, Matthews, and Cox (1999). Lazarus and Folkman propose two types of appraisal process: primary and secondary appraisals. Primary appraisals are concerned with how individuals *evaluate* the nature and meaning of a particular transaction in relation to their well-being (Ferguson, *et al*, 1999; Lazarus & Smith, 1988). Thus, this process has to do with whether or not what is happening is relevant to an individual's values, goal commitments, beliefs about self and world, and situational intentions and, if so, in what way. Lazarus and Folkman (1984) argue that, because we do not always act on them, values and beliefs are apt to be weaker factors in mobilising action and emotion than goal commitments. Thus, for example, one may think it is good to have wealth but not worth making a major sacrifice to obtain it. The term *goal commitment* implies that a person will strive hard to attain the goal despite discouragement and adversity.

Lazarus (2000) maintains that if there is no goal commitment, there is nothing of adaptational importance at stake in an encounter to arouse emotions. The individual goes about dealing with routine matters until there is an indication that something of greater adaptational importance is taking place, which will interrupt the routine because it has more potential for harm, threat or challenge (Mandler, 1984).

Fundamental to the questions an individual asks himself in primary appraisals, are whether anything is at stake, e.g. "Are any of my goals, important personal relationships, or core beliefs and values represented here?" and "If I do have a stake, what might the expected outcome be?" If the answer is "no stake", in other words the transaction is not relevant to one's well-being, there is nothing further to consider (Lazarus & Folkman, 1984)

Secondary appraisals are concerned with the allocation of the available coping resources and are seen as drawing on an individual's experience and *knowledge* (Cox, 1987; Ferguson, *et al*, 1999; Lazarus & Smith, 1988). Thus, this process focuses on what can be done about a troubled person-environment relationship, that is, the coping options and the social and intra-psychic constraints against acting them out. Such an evaluation, and the personal meanings a person constructs from the relationship, is the essential cognitive underpinnings of coping actions (Lazarus, 2000).

In any stressful transaction, an individual must evaluate coping actions, decide which ones to choose, and decide how to set them in motion (Lazarus & Launier, 1978). This is the function of secondary appraising. The questions addressed vary with the circumstances, but, according to Lazarus, they concern diverse issues such as the following: "Do I need to act?", "What can be done?", "Is it feasible?", "Which option is best?", "Am I capable of carrying it out?", "What are the costs and benefits of each option?", "Is it better not to act?", "What might the consequences of acting or not acting be?", and "When should I act?" Decisions about coping actions are not usually etched in stone; they should be changed in accordance with the flow of events, if there is the possibility to do so.

The word "Secondary" appraisals does not denote less importance than primary, but it suggests only that primary appraisals are judgements about what is happening, whether worthy of attention and, perhaps, mobilisation (Lazarus & Folkman, 1984). Primary appraising never operates independently of secondary appraising, which is needed to attain an understanding of an individual's total plight. In effect, there is always an active interplay of both. The distinctly different contents of each type of appraisal justify treating them separately, but each should be regarded as integral meaning components of a more complex process (Lazarus, 2000; Lazarus & Folkman, 1984).

Four basic dimensions are believed to underlie primary appraisals: (1) threat, (2) challenge, (3) loss and (4) benefit. According to Folkman and Lazarus (1985) the threat dimension refers to the potential for harm, whereas

the loss dimension refers to harm which affects (already affected) friendships, health or self-esteem. The challenge dimension is seen as relating to the potential for growth, mastery and gain, and is, therefore very similar to the notion of Selye's (1974) eustress, where people who feel challenged pit themselves enthusiastically, even joyously, about the struggle that will ensue. In the analysis offered by Folkman and Lazarus (1985) a fourth dimension termed 'benefit' is also presented. This dimension reflects the ideas of mastery and gain, and as such appears very similar to the challenge dimension. As such, Ferguson, Matthews, and Cox (1999) developed an instrument termed the Appraisal of Life Events (ALE) scale which showed that appraisals are better suited as a three dimensional model, of 'threat', 'challenge', and 'loss'.

Ferguson, Matthews, and Cox (1999) found that a *threatening* environment is not just potentially threatening, but tends also to be physically harmful (e.g. hostile) and apt to generate anxiety (e.g. worrying). An environment appraised as related to *loss* is one with the potential for suffering (e.g. pain, intolerable) and sadness (e.g. depressing, pitiful). The *challenge* factor represents the degree to which the environment is perceived as one that allows for personal growth and development (e.g. informative, stimulating, enjoyable), and thus incorporates benefit.

It has already been reported that primary and secondary appraisals should be regarded as integral meaning components of a more complex process (Lazarus, 2000; Lazarus & Folkman, 1984). However, Ferguson, *et al* (1999) argue that these two appraisal processes are not mutually exclusive, but rather interact to produce an overall percept, and thus, can, and should, be measured separately. Thus, they argue that, within this transactional model of stress, the primary appraisals form the 'final common path' (see Monroe & Kelley, 1995). Support for this version of the transactional model is provided by a series of structural models presented by Cooper and Baglioni (1988). This, therefore, further highlights the appropriateness of a reliable and valid measure of simply primary appraisals, rather than measuring both sets of appraisals together (ALE scale: Ferguson, Matthews, & Cox, 1999). It also means that, according to Ferguson, *et al* (1999), the other components of the stress model (e.g. coping)



should be associated in a theoretically meaningful way with such a measure (Cox & Ferguson, 1991). For example, although, according to the model, coping behaviours are primarily associated with secondary appraisals (Lazarus & Folkman, 1984), the dynamic interrelationship between appraisal processes and coping means that primary appraisals should be associated with coping behaviour (Edwards & Cooper, 1988). Therefore, there is a level of congruency between primary appraisals and coping behaviour (Ferguson, Matthew, & Cox, 1999; cf. Vitaliano, DeWolfe, Maiuro, Russo & Katon, 1990). Thus, negative appraisals (e.g. threat and loss) have been found to be significantly associated more with avoidant/emotion-focused coping, and positive appraisals (e.g. challenge), more with problem-focused coping (Ferguson, Matthews, & Cox, 1999). Ferguson, *et al* also argue that, although Lazarus and Folkman (1984) tend to emphasise secondary rather than primary appraisal as an influence on coping, findings show that primary appraisals may also bias choice of coping strategy.

It is worth noting that this outlook is also congruent with Jungian theory. Jung has proposed that when an individual is strong in commitment to their beliefs, i.e. on a strong path toward individuation, then such an individual, when facing problems or crises in their life, will use their beliefs to help, or guide, them. Thus, the individual would use their beliefs as a tool to give meaning to what is happening, which in turn, would give them strength to deal with the problem in a positive light, perhaps, seeing the problem as a challenge and a way of development and growth, rather than the problem representing a threat, or loss. It is prudent, then, as part of this chapter, to examine the dynamics of stress appraisals whilst using the Commitment to Belief scale, to consider whether commitment to belief is related to primary appraisals. Thus, an individual with strong commitment to belief should, when confronted with a stressful situation see it as challenging.

## 2. Coping

Lazarus (1966), and Lazarus and Folkman (1984), asserted that the primary mediator of person environment transaction was appraisals (primary and secondary). Primary appraisal is a judgment about what the person perceives a situation holds in store for them. Specifically, a person assesses the possible effects of demands and resources on well-being. If the demands of a situation outweigh available resources, then the individual may determine that the situation represents the potential for threat or loss, or that the situation has potential for some type of gain or benefit (challenge).

The perception of threat triggers secondary appraisals, which is the process of determining what coping options or behaviours are available to deal with a threat. There are many situational factors that influence appraisals of threat, including; their number and complexity; person's values, commitments, and goals; availability of resources; novelty of the situation; self-esteem; social support; coping skills; situational constraints; degree of uncertainty and ambiguity; proximity (time and space), intensity, and duration of threat; and the controllability of the threat. What occurs during appraisal processes determines emotions and coping behaviours (Lazarus, 1966; Lazarus & Folkman, 1984).

A third type of appraisal is also identified as that of *reappraisal*. Reappraisal is the process of continually evaluating, changing, or re-labelling earlier primary, or secondary appraisals, as the situation evolves. What was initially perceived as threatening may become viewed as a challenge, or as benign, or irrelevant. Often, reappraisal results in the cognitive elimination of perceived threat.

Other important concepts in Lazarus's transactional framework for stress include coping and stress emotions. Unlike response-based stress (stress as a response to noxious stimuli or environmental stressors; Selye, 1956) or stimulus-based orientation to stress (life events, or life changes, are seen as the stressors to which a person responds, e.g. Holmes & Rahe, 1967), the transactional model explicitly includes coping efforts. Coping is defined as

“constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984, p.141). This definition clearly deems coping as a process-oriented phenomenon, not a trait or an outcome, and makes it clear that such effort is different from automatic adaptive behaviour that has been learned (Rice, 2000). Furthermore, coping involves ‘managing’ the stressful situation; therefore, it does not necessarily mean ‘mastery’. Managing may include efforts to minimise, avoid, tolerate, change, or accept a stressful situation as a person attempts to master, or handle, their environment.

In 1966, Lazarus identified two forms of coping; direct action and palliative. In 1984, Lazarus and Folkman changed the names of these two forms to problem-focused and emotion-focused, respectively. *Problem-focused coping* strategies are similar to problem-solving tactics. These strategies encompass efforts to define the problem, generate alternative solutions, weigh the costs and benefits of various actions, take actions to change what is changeable, and, if necessary, learn new skills. Problem-focused efforts can be directed outward to alter some aspect of the environment, or inward to alter some aspect of self. Rice (2000) argues that many of the efforts directed to self fall into the category of reappraisals, for example, changing the meaning or the situation or event, reducing ego involvement, or recognising the existence of personal resources or strengths.

*Emotion-focused coping* strategies are directed toward decreasing emotional distress. These tactics include such efforts as distancing, avoiding, selective attention, blaming, minimising, wishful thinking, venting emotions, seeking social support, exercising, and meditating. Similar to the cognitive strategies identified in problem-focused coping efforts, changing how an encounter is construed without changing the objective situation is equivalent to reappraisal (Rice, 2000). The following are common examples: “I decided that something a lot worse could have happened”, or “I just decided there are more important things in life”. Unlike problem-focused strategies, emotion-focused strategies do not change the meaning of a situation directly. For example, doing

vigorous exercise or meditating may help an individual reappraise the meaning of a situation, but the activity does not directly change meaning. Emotion-focused coping is the more common form of coping used when events are not changeable (Lazarus & Folkman, 1984).

Lazarus (1966), and Lazarus and Folkman (1984), summarise a large body of empirical evidence supporting the distinction between emotion (palliative) and problem-focused (direct-action) coping. In addition, the evidence indicates that everyone uses both types of strategies to deal with stressful encounters or troublesome external or internal demands.

Folkman (1997), based on her work in studying AIDS-related care giving, proposed an extension of the model regarding the theoretical understanding of coping. Her study involved measurement of multiple variables of psychological state (depressive symptomology, positive states, and positive and negative affect), coping, and religious or spiritual beliefs and activities. Each caregiver participant was interviewed twice. Although participants reported a high level of negative psychological states, as expected, they also reported a high level of positive affect. Interestingly, the interview data, when examined along with quantitative analyses, revealed that the coping strategies associated with positive psychological states had a common theme: “searching for and finding positive meaning. Positive reappraisal, problem-focused coping, spiritual beliefs and practices, and infusing ordinary events with positive meaning all involve the activation of beliefs, values, or goals that help define the positive significance of events” (p.1215). Folkman cites many studies that support her conclusion that finding positive meaning in a stressful situation is linked to the experience of well-being.

Another important construct in Lazarus’s (1966; 1991) transactional model is emotion, specifically emotions that are considered to be stress emotions. These include, but are not limited to, anxiety, fear, anger, guilt, and sadness (Lazarus, 1991, 1966; Lazarus & Folkman, 1984). Lazarus (1991) does not treat depression as an emotion but rather as a composite of several stress emotions, including anger, sadness, and guilt.

Lazarus and Folkman (1984) present cogent arguments for the explanatory power of the cognitive theory of emotion. Although thoughts precede emotions, i.e. emotions are shaped by thought processes, emotions can, in turn, affect thoughts. The primary appraisal of threat, and the specific meaning of the situation to the person, trigger a particular stress emotion consistent with the meaning.

Lazarus (1966), and Lazarus and Folkman (1984), link stress-related variables to health-related outcomes. All of their constructs in the transactional model, when taken together, affect adaptational outcomes. Lazarus and Folkman propose three types of adaptational outcomes: (a) functioning in work and social living, (b) morale or life satisfaction, and (c) somatic health. They view the concept of health broadly to encompass physical (somatic conditions, including illness and physical functioning), psychological (cognitive functional ability and morale – including positive and negative effects regarding how people feel about themselves and their life, including life satisfaction), and social (social functioning).

Given the findings of Lazarus (1966; 1991), Folkman (1997), and Lazarus and Folkman (1984), and Jung's description of the person who has a strong commitment to belief, some predictions can be made regarding the relationship between commitment to belief and psychological well-being. This is particularly evident when regarding those individuals who have found meaning to what is happening to them, and use this to create/assist direct action (problem-focused coping) to understand and work with the problem, and that these individuals tend to be healthier, both in terms of physical and mental health, than those who tend to use emotion-focused coping.

Thus, it could be argued that individuals who have a strong commitment to belief are more related to problem-focused coping (adaptive) rather than emotion-focused (maladaptive) coping, as they are, perhaps, more able to understand/appraise the world through meaning, and thus able to tackle, instead of avoid, the problem. This, then also needs further investigation.

### 3. Optimism

Following the literature review on coping above, optimism is also considered (within cognitive perspectives) as another aspect of coping (Scheier, Weintraub & Carver, 1986). Also, optimism theory is particularly prudent to the considerations of belief, given that, in chapter five, optimism was found to be positively significantly correlated to all aspects of the Commitment to Belief scale (internal, stable, global, and overall commitment to belief), albeit from a Jungian perspective. Therefore, it is considered appropriate, given the light of this chapter, to further explore optimism as a theory, and as an alternative, or dynamic of commitment to belief.

Optimism, as a theory, was considered at length in chapter five. Thus, to sum the optimism literature; findings by Scheier, Weintraub and Carver (1986) suggest that dispositional optimism is a mediator of how well people respond to stress. They argue that coping, whether problem-focused or emotion-focused, is considered to eventually alleviate the stress. However, attempts to cope with difficult circumstances are not always successful. If people find that they cannot remove or even reduce the threat, they may give up their efforts to attain the goals that are impeded by the stressor (Carver, & Scheier, 1985). Such a giving-up response or disengagement, though not a central element of Lazarus's model, does not seem inconsistent with it. Thus, there is the possibility that optimists and pessimists differ in the strategies they use to cope with stress. Many authors have found that problem-focused coping is more likely in situations that seem amenable to positive change (Folkman & Lazarus, 1980; McCrae, 1984). Thus, optimism theory suggests that problem-focused coping is more likely among persons who expect to see positive change, i.e. optimism is seen in terms of generalised expectancies for good outcomes (Scheier & Carver, 1985). Indeed, optimism (Carver & Scheier, 1981; 1982; Scheier & Carver, 1985) has demonstrated significant relationships with health and overall well-being; as Chang, Maydeu-Oliveras, and D'Zurilla (1997) note, optimism and life satisfaction are highly related. Similarly, Smith, Pope, Rhodewalt, and Poulton (1989) believe that optimists' holding of positive

expectations for the future leads them to be better able to solve problems, and also experience better health. Carver & Scheier (1985; 1994) argue that individuals who display positive or optimistic expectation are more likely to persist in goal-oriented efforts than those with negative or pessimistic views if, and when, disruption of goal-oriented activities occur.

In previous chapters, it has been presented that Jung believes that an individual needs meaning to persevere with life and an integration of the Self to reach individuation, which in turn, gives a person full meaning to their life and a reason for being. In other words, a person needs to find belief and commit themselves with their whole being (Jung, 1958) in order to face, or cope, with life's struggles openly and with courage, in order to understand themselves, and their own life's meaning in order to achieve their answers to life through individuation. It is this suggestion by Jung that has led to the speculation that commitment to belief is the mechanism that allows a person to better deal with life events, in other words is the dynamic/mediator behind the way a person 'copes', i.e. of how well a person responds to stress.

It seems apparent then, that the findings in chapter five, demonstrating optimism as related to commitment to belief, is in contradiction to these speculations, and that optimism could actually be more of an accurate predictor, than considering coping and stress (particularly in regards to problem-focused strategies) as better related to commitment to belief. It is also not clear whether commitment to belief is simply measuring optimism, or it is indeed a separate and unique concept, which, as mentioned when defining Jung's overall theories, has an effect on, and is affected by, optimism. For example, it may be that a person who has deep commitment to belief gains optimism, or that a person with an optimistic attitude to life spurs them to develop a deep commitment to belief.

Thus, for the purposes of exploring social cognitive dynamics of coping alongside, or in place of Jungian concepts (i.e. in order to gain modern theoretical guidance, or simply to realize that Jung's guidance is of better use), and their relationship to the Commitment to Belief Scale, and because optimism

has already been found, in chapter five, to be positively correlated to commitment to belief, it would be prudent to further examine optimism and its relationship to commitment to belief in much greater depth.

### **Rationale and Aims of the Study**

In summary, three aspects of appraisal and coping can be outlined. Firstly, stress appraisals are involved with primary appraisals to a stressor. Ferguson, Matthews and Cox (1999) show three main types of these appraisals; threat; challenge; and loss. They argue that whereas, threat and loss are detrimental to health, challenge appraisals involve benefiting the individual in psychological well-being as they perceive the situation as informative, stimulating and enjoyable, which then allows for personal growth and development. Secondly, coping (secondary appraisals) involves 2 main forms; emotion-focused coping, and problem-focused coping. Lazarus (1966; 1991), Folkman (1997), and Lazarus and Folkman (1984), have found that individuals who have found meaning to what is happening to them, and use this to create/assist direct action (problem-focused coping) to understand and work with the problem, and that these individuals tend to be healthier, both in terms of physical and mental health, than those who tend to use emotion-focused coping. Thirdly, optimism theory acts as a mediator of how well people deal with stress. It is argued that optimists tend to use problem-focused coping, are more likely to see positive change, and are more likely to solve problems, which, overall, leads to better mental health as opposed to pessimists. Previous findings with the Commitment to Belief scale have suggested a significant positive correlation with optimism.

Thus, the aim of this chapter is to begin to explore the relationships between commitment to belief, and stress appraisals, coping, and optimism, in order to identify which possible strategies/aspects may provide a further understanding to the relationship between commitment to belief and psychological well-being. In light of Jungian theory, that has been used as a basis to develop the Commitment to Belief scale, and previous findings using



the Commitment to Belief scale, there are a number of hypotheses that can be made;

1. An individual with strong commitment to belief should, when confronted with a stressful event, see it as challenging. Therefore, engaging in Challenge appraisals, and not appraisals of Threat and Loss, when using primary appraisals.
2. An individual with strong commitment to belief should, when confronted with a stressful event, be related to problem-focused coping (adaptive behaviour) rather than emotion-focused coping (maladaptive behaviour), as they are more able to understand (appraise) the world through meaning, thus able to tackle, instead of avoid, the problem.
3. An individual with strong commitment to belief should be more optimistic.

## **Method**

176 undergraduate students at Sheffield Hallam University (65 males, 111 females) aged between 18 and 58 years (Mean = 28.9, SD = 10.4). These respondents were the same sample that is reported in chapters 3 and 6 of this thesis.

## **Questionnaires**

All respondents completed a questionnaire, which included a number of scales;

- (i) The Commitment to Belief scale: see chapter two for full details
- (ii) The Appraisal of Life Events (ALE) scale (Ferguson, Matthews, & Cox, 1999). The scale is a 16 item self-report adjective checklist designed to elicit participants' appraisals of a situation's potential

emotional impact. These 16 adjectives sum to form three dimensions of primary appraisal: threat, challenge and loss (see Ferguson, Matthews, & Cox, 1999). Each adjective is scored along a six-point Likert-type scale (where 0= 'Not at all', to 5= 'Very much so'). The ALE scale can be used retrospectively with participants describing how they perceived a life event at the time that the event occurred. The ALE scale can also be used concurrently to describe a single event. A threatening environment is not just potentially threatening, but tends also to be physically harmful and liable to anxiety. The challenge factor represents the degree to which the environment is perceived as one that allows for personal growth and development. An environment appraised as related to loss is one with the potential for suffering loss and sadness. Coefficient alphas for the three sub-scales range from .74 for loss to .91 for threat. Test-retest reliabilities for a single event over 1 month are above .77 (Ferguson, 2000). Concurrent validity for the scale has been supported, as the ALE scale has been shown to be correlated with Neuroticism, Extroversion, coping behaviour, and health (Ferguson, et al, 1999; Ferguson, 2000).

- (iii) The COPE (Carver, Scheier, & Weintraub, 1989) was administered to measure coping styles. This is a 53-item scale measuring a number of coping strategies to deal with stressors as described by Carver, et al (1989) via a series of 13 4-item discrete scales and 1 single item scale designed to assess respondent's problem-focus and emotion-focus coping strategies. The scale's validity has been demonstrated by expected correlations and a number of outcomes with health (Lyne & Roger, 2000). The scales include:

- (a) **Active Coping:** Active steps are taken to remove or circumvent the stressor (e.g. 'I take additional action to try and get rid of the problem' [item 1]).

- (b) **Planning:** Thinking about how to cope with the stressor, thinking up action strategies, thinking about what steps to take

and how to best handle the problem (e.g. 'I try to come up with a strategy about what to do' [item 5]).

- (c) **Suppression:** This means putting other projects aside, trying to avoid becoming distracted by other events, sometimes letting other things slide in order to deal with the stressor (e.g. 'I put aside other activities in order to concentrate on this' [item 9]).
- (d) **Restraint Coping:** Waiting until an appropriate opportunity presents itself in order to act (e.g. 'I force myself to wait for the right time to do something' [item 13]).
- (e) **Seeking Social Support for Instrumental Reasons:** A style of problem focused coping: seeking advice, assistance or information (e.g. I ask people who have had similar experiences what they did' [item 17]).
- (f) **Seeking Social Support for Emotional Reasons:** A style of emotion focused coping; getting moral support, sympathy, or understanding (e.g. 'I talk to someone about how I feel' [item 21]).
- (g) **Positive Reinterpretation and Growth:** Coping aimed at managing distress emotions rather than dealing with the stressor (e.g. 'I look for something good in what is happening' [item 25]).
- (h) **Acceptance:** The individual accepts the reality of the stressor (e.g. 'I learn to live with it' [item 29]).
- (i) **Turning to Religion:** Religion may serve as an emotional support (e.g. 'I seek God's help' [item 33]).
- (j) **Focus on and Venting of Emotion:** A tendency to focus on the distress felt by the individual and ventilate those feelings (e.g. 'I get upset and let my emotions out' [item 37]).
- (k) **Denial:** Attempts are made by the individual to deny the reality of the stressor (e.g. 'I refuse to believe that it has happened' [item 41]).
- (l) **Behavioural Disengagement:** A reduction of effort to deal with the stressor (e.g. 'I give up the attempt to get what I want' [item 45]).

**(m) Mental Disengagement:** A variation on Behavioural

Disengagement; argued to occur when the conditions that allow Behavioural Disengagement to occur are not present (e.g. ‘I turn to work or other substitute activities to take my mind off things’ [item 49]).

**(n) Alcohol and Drug Disengagement (1 item):** A tendency to use drink or drugs as a coping strategy (‘I drink or take drugs, in order to think about it less’ [item 53]).

Responses are scored on a four point format from 1 = ‘I usually don’t do this at all’, through 4 = ‘I usually do this a lot’. Higher scores on each of these sub-scales indicate a greater use of that particular coping style.

- (iv) The Life Orientation Test – Revised: LOT-R (Scheier, Carver, & Bridges, 1994). The original LOT (Scheier & Carver, 1985) was a 10-item scale with two filler items, four positively worded items, and four reverse-coded items. The LOT-R has been revised to remove colloquialisms, and to address any issues of neuroticism accounting for unique variance with mental health variables in place of optimism (Smith, Pope, Rhodewalt & Poulton, 1989). It is a 10-item measure with four filler items, three positively worded items, and three reverse-coded items. Respondents indicate their degree of agreement with statements such as, “In uncertain times, I usually expect the best”, using a five-point response scale ranging from 1=“Strongly disagree” to 5=“Strongly agree”. Negatively worded items are usually reversed, and a single score is obtained.
- (v) The General Health Questionnaire: GHQ (Goldberg & Williams, 1991). This scale contains four sub-scales that measure aspects of general health. Each of these sub-scales comprise 7-item measures of: depressive symptoms (e.g. ‘Felt that life is entirely hopeless’ [item 23]); anxiety symptoms (e.g. ‘Been getting scared or panicky for no good reason’ [item 12]); social dysfunction (e.g. ‘Been taking longer over the things you do’ [item 16]; and somatic symptoms

(e.g. 'Been feeling run down and out of sorts' [item 3]). Scores are recorded on a four point response format, from 0= 'Better than usual', 2 = 'Same as usual', 3 = 'Worse than usual', through 4 = 'Much worse than usual'. The scale demonstrates satisfactory reliability and validity across a number of samples (Goldberg & Williams, 1991).

## Results

Internal reliability statistics are a popular way of assessing how well scales are functioning psychometrically, by assessing the correlations between the items comprising the scale (Kline, 1986). Due to the limited information on the psychometric properties of some of the scales among the present sample, internal reliability statistics were used. Table 8.1 shows Cronbach alpha statistics (Cronbach, 1951) that were computed for all the scales comprising more than two items. Table 8.1 also shows the mean and standard deviation scores for all the scales by sex.

It is generally accepted that a reliability statistic of above .7 is satisfactory for item analysis (Kline, 1986). The present findings suggest that all the scales have Cronbach alpha scores of above .7 and suggest that all the scores are performing satisfactory among the present sample.

Table 8.1 also shows the mean and standard deviation scores for all the scales by sex. Of the 26 variables in the study, significant differences for sex occur for 9 of these variables. Females are found to score significantly higher than males on threat appraisals, somatic symptoms, anxiety, depression, seeking social support for emotional reasons, focus on and venting of emotions, and behavioural disengagement. Males are found to score significantly higher than females on optimism and suppression of competing activities. These differences are consistent with the present literature (Carver, *et al*, 1989; Goldberg & Williams, 1991; Scheier, *et al*, 1994). However, given that significant differences between the sexes for the scales did not occur for internal, stable, and global beliefs, and overall commitment to belief (and no sex

differences for 17 of the 26 variables), the following analysis was performed with men and women combined.

**Table 8.1:** Internal reliability statistics, and Mean Scores by sex for all the scales among the present sample population norms.

Scale	$\alpha$	Mean (SD) Males(N=65)	Mean (SD) Females(N=111)	t
Internal Belief	0.94	20.89 (13.4)	21.94 (11.6)	-0.55
Stable Belief	0.88	27.15 (11.0)	25.17 (09.4)	1.26
Global Belief	0.88	26.83 (11.3)	24.71 (09.4)	1.34
Overall Commitment to Belief	0.95	74.88 (32.4)	71.82 (27.9)	0.66
Threat appraisal	0.76	14.44 (06.9)	16.91 (06.1)	-2.45*
Challenge appraisal	0.88	13.46 (08.5)	11.96 (07.3)	1.22
Loss appraisal	0.73	09.08 (05.3)	09.18 (04.6)	-0.13
Optimism	0.77	35.25 (06.8)	32.98 (05.9)	2.32*
Somatic Symptoms	0.88	05.49 (03.6)	07.64 (04.7)	-3.17**
Anxiety	0.92	06.95 (04.1)	09.30 (05.6)	-2.91**
Social Dysfunction	0.82	04.18 (03.6)	04.60 (03.9)	-0.68
Depression	0.90	05.65 (03.4)	07.41 (03.9)	-3.03**
Active Coping	0.77	11.65 (03.0)	10.96 (02.7)	1.59
Planning	0.86	11.41 (03.2)	10.48 (03.2)	1.84
Supp. of Competing Activities	0.80	10.38 (03.2)	09.16 (02.7)	2.74**
Restraint Coping	0.81	09.55 (03.0)	09.88 (02.8)	-0.74
Seek Soc. Sup for Inst. Reasons	0.90	09.84 (03.7)	10.55 (03.4)	-1.27
Seek Soc. Sup for Emot.Reasons	0.92	09.63 (04.0)	11.04 (03.7)	-2.33*
Pos.Reinterpretation and Growth	0.85	11.15 (02.9)	10.63 (03.2)	1.09
Acceptance	0.81	10.23 (03.0)	10.47 (03.0)	-0.51
Turning to Religion	0.91	06.49 (03.6)	07.71 (04.3)	-1.93
Focus & Venting of Emotions	0.89	08.65 (03.5)	10.27 (03.3)	-3.09**
Denial	0.89	06.26 (02.8)	06.87 (03.3)	-1.26
Behavioural Disengagement	0.81	05.95 (02.2)	06.79 (02.5)	-2.26*
Mental Disengagement	0.76	08.57 (02.8)	09.19 (02.8)	-1.43
Alcohol & Drug Disengagement	N/A	02.22 (01.0)	02.00 (01.0)	1.37

p<0.05\*; p<0.01\*\*

To examine the relationship between all the variables, Pearson Product moment correlations were computed between all the measures, and internal, stable, and global beliefs, and overall commitment to belief (see Table 8.2 for full correlation matrix). In essence, this shows that a number of variables are significantly related to one another. However, when considering the Commitment to Belief scale; internal beliefs were found to be positively significantly correlated to optimism, positive reinterpretation and growth, and challenge appraisals; and negatively significantly correlated to anxiety, depression, social dysfunction, suppression, denial, and mental disengagement, and loss appraisals. Stable beliefs were found to be positively significantly correlated to optimism, positive reinterpretation and growth, and challenge appraisals; and negatively significantly correlated to somatic symptoms, anxiety, depression, social dysfunction, and denial. Global beliefs were found to be positively significantly correlated to optimism, active coping, planning, positive reinterpretation and growth, and challenge appraisals; and negatively significantly correlated to somatic symptoms, anxiety, depression, social dysfunction, turning to religion, and denial. Overall commitment to beliefs were positively significantly correlated to optimism, active coping, positive reinterpretation and growth, and challenge appraisals; and negatively significantly correlated to somatic symptoms, anxiety, depression, social dysfunction, denial, and loss appraisals.

Table 8.2: Pearson Product moment correlation coefficient matrix for all the variables, and internal, stable, global and overall commitment to beliefs.

	Sta	Gl	OC	Thr	Ch	L	Opt	SS	Anx	Dep	SD	Act	Pla	Sca	Rc	Sir	Ser	Prg	Acc	Ttr	Fve	Den	Bd	Md	Ad
Int	<u>.71</u>	<u>.70</u>	<u>.89</u>	<u>.08</u>	<u>.24</u>	<u>-.18</u>	<u>.31</u>	<u>-.11</u>	<u>-.19</u>	<u>-.19</u>	<u>-.35</u>	<u>.12</u>	<u>.08</u>	<u>-.15</u>	<u>-.06</u>	<u>.09</u>	<u>.08</u>	<u>.18</u>	<u>.01</u>	<u>-.06</u>	<u>.07</u>	<u>-.26</u>	<u>-.14</u>	<u>-.15</u>	<u>-.14</u>
Sta		<u>.86</u>	<u>.93</u>	<u>.05</u>	<u>.27</u>	<u>-.13</u>	<u>.37</u>	<u>-.29</u>	<u>-.32</u>	<u>-.26</u>	<u>-.37</u>	<u>.13</u>	<u>.14</u>	<u>.00</u>	<u>-.01</u>	<u>-.14</u>	<u>-.02</u>	<u>.17</u>	<u>-.03</u>	<u>-.12</u>	<u>-.04</u>	<u>-.27</u>	<u>-.13</u>	<u>-.10</u>	<u>-.04</u>
Gl			<u>.92</u>	<u>.03</u>	<u>.24</u>	<u>-.15</u>	<u>.34</u>	<u>-.28</u>	<u>-.29</u>	<u>-.24</u>	<u>-.30</u>	<u>.16</u>	<u>.16</u>	<u>.03</u>	<u>.06</u>	<u>-.04</u>	<u>.01</u>	<u>.20</u>	<u>.05</u>	<u>-.20</u>	<u>-.08</u>	<u>-.21</u>	<u>-.09</u>	<u>-.10</u>	<u>-.05</u>
OC				<u>.06</u>	<u>.27</u>	<u>-.17</u>	<u>.37</u>	<u>-.24</u>	<u>-.29</u>	<u>-.25</u>	<u>-.37</u>	<u>.15</u>	<u>.13</u>	<u>-.05</u>	<u>-.01</u>	<u>-.02</u>	<u>.03</u>	<u>.20</u>	<u>.02</u>	<u>-.14</u>	<u>-.01</u>	<u>-.27</u>	<u>-.13</u>	<u>-.13</u>	<u>-.09</u>
Thr					<u>-.12</u>	<u>.48</u>	<u>-.12</u>	<u>.24</u>	<u>.21</u>	<u>.16</u>	<u>-.02</u>	<u>-.12</u>	<u>-.12</u>	<u>-.13</u>	<u>-.02</u>	<u>.16</u>	<u>.21</u>	<u>-.17</u>	<u>.02</u>	<u>-.19</u>	<u>.22</u>	<u>.05</u>	<u>.06</u>	<u>.31</u>	<u>.08</u>
Ch						<u>-.45</u>	<u>.19</u>	<u>-.23</u>	<u>-.14</u>	<u>-.18</u>	<u>-.30</u>	<u>.05</u>	<u>.03</u>	<u>-.05</u>	<u>.03</u>	<u>-.15</u>	<u>-.11</u>	<u>.14</u>	<u>-.09</u>	<u>-.16</u>	<u>-.09</u>	<u>-.02</u>	<u>.20</u>	<u>.06</u>	<u>-.03</u>
L							<u>-.13</u>	<u>.20</u>	<u>.12</u>	<u>.14</u>	<u>.22</u>	<u>-.06</u>	<u>-.06</u>	<u>-.02</u>	<u>.10</u>	<u>.00</u>	<u>-.09</u>	<u>-.18</u>	<u>-.09</u>	<u>-.08</u>	<u>-.00</u>	<u>-.04</u>	<u>-.12</u>	<u>.03</u>	<u>.06</u>
Opt								<u>-.34</u>	<u>-.48</u>	<u>-.48</u>	<u>-.44</u>	<u>.41</u>	<u>.30</u>	<u>-.01</u>	<u>-.16</u>	<u>-.05</u>	<u>.04</u>	<u>.39</u>	<u>.18</u>	<u>.01</u>	<u>-.31</u>	<u>.30</u>	<u>.32</u>	<u>-.06</u>	<u>-.07</u>
SS									<u>.70</u>	<u>.62</u>	<u>.47</u>	<u>.20</u>	<u>-.19</u>	<u>-.09</u>	<u>.04</u>	<u>.21</u>	<u>.18</u>	<u>-.18</u>	<u>.13</u>	<u>-.05</u>	<u>.27</u>	<u>.17</u>	<u>-.01</u>	<u>.23</u>	<u>.13</u>
Anx										<u>.68</u>	<u>.48</u>	<u>-.21</u>	<u>-.24</u>	<u>-.03</u>	<u>.06</u>	<u>.23</u>	<u>.22</u>	<u>-.23</u>	<u>-.02</u>	<u>-.07</u>	<u>.30</u>	<u>.28</u>	<u>.24</u>	<u>.34</u>	<u>.21</u>
Dep											<u>.48</u>	<u>-.27</u>	<u>-.25</u>	<u>.06</u>	<u>.10</u>	<u>.11</u>	<u>.05</u>	<u>-.25</u>	<u>-.07</u>	<u>.04</u>	<u>.21</u>	<u>.35</u>	<u>.20</u>	<u>.26</u>	<u>.28</u>
SD												<u>.35</u>	<u>-.26</u>	<u>.08</u>	<u>-.09</u>	<u>.11</u>	<u>.00</u>	<u>-.29</u>	<u>-.17</u>	<u>-.13</u>	<u>.10</u>	<u>.17</u>	<u>.18</u>	<u>.01</u>	<u>.18</u>
Act													<u>.66</u>	<u>.27</u>	<u>.17</u>	<u>.15</u>	<u>.28</u>	<u>.58</u>	<u>.29</u>	<u>.06</u>	<u>.06</u>	<u>-.17</u>	<u>.35</u>	<u>-.04</u>	<u>-.18</u>
Pla														<u>.45</u>	<u>.18</u>	<u>.21</u>	<u>.26</u>	<u>.60</u>	<u>.30</u>	<u>.10</u>	<u>.08</u>	<u>-.16</u>	<u>.30</u>	<u>-.13</u>	<u>-.11</u>
Sca															<u>.30</u>	<u>.16</u>	<u>.02</u>	<u>.10</u>	<u>.01</u>	<u>.11</u>	<u>-.01</u>	<u>.20</u>	<u>.06</u>	<u>-.03</u>	<u>.07</u>
Rc																<u>.12</u>	<u>.08</u>	<u>.19</u>	<u>.14</u>	<u>.14</u>	<u>.04</u>	<u>.23</u>	<u>.19</u>	<u>.08</u>	<u>-.06</u>
Sir																		<u>.59</u>	<u>.22</u>	<u>.07</u>	<u>.41</u>	<u>.10</u>	<u>.05</u>	<u>.12</u>	<u>-.02</u>
Ser																		<u>.36</u>	<u>.18</u>	<u>.10</u>	<u>.56</u>	<u>.04</u>	<u>-.04</u>	<u>.08</u>	<u>-.13</u>
Prg																			<u>.40</u>	<u>.15</u>	<u>.20</u>	<u>-.10</u>	<u>-.15</u>	<u>-.03</u>	<u>-.04</u>
Acc																				<u>-.01</u>	<u>.09</u>	<u>-.04</u>	<u>-.09</u>	<u>.21</u>	<u>-.14</u>
Ttr																					<u>.21</u>	<u>.12</u>	<u>.15</u>	<u>-.07</u>	<u>-.30</u>
Fve																						<u>.06</u>	<u>.09</u>	<u>.15</u>	<u>.01</u>
Den																							<u>.42</u>	<u>.21</u>	<u>.20</u>
Bd																								<u>.25</u>	<u>.47</u>
Md																									<u>.30</u>

$p < .05, p < .01$

**Key:** INT=Internal Beliefs; STA=Stable Beliefs; GL=Global Beliefs; OC=Overall Commitment to Beliefs; THR=Threat appraisals; CH=Challenge appraisals; L=Loss appraisals; OPT=Optimism; SS=Somatic Symptoms; ANX=Anxiety; DEP=Depression; SD=Social Dysfunction; ACT=Active Coping; PLA=Planning; SCA=Suppressing Competing Activities; RC=Restraint Coping; SIR=Seeking Social Support for Instrumental Reasons; SER=Seeking Social Support for Emotional Reasons; PRG=Positive Reinterpretation and Growth; ACC=Acceptance; TTR=Turning to Religion; FVE=Focus on and Venting of Emotion; DEN=Denial; BD=Behavioural Disengagement; MD=Mental Disengagement; AD=Alcohol and Drug Disengagement.



However, when considering the correlation matrix, it is apparent that many constructs are all related to each other, namely, overall commitment to belief, optimism, challenge appraisals, and the coping styles of positive reinterpretation and growth and denial. Therefore, as an attempt to simplify the relationship between all these variables, regression analysis was performed in order to discover which aspects of coping, alongside commitment to belief, were accounting for unique variance with the psychological well-being measures. For this purpose, only overall commitment to belief will be taken forward, as it is this construct that gives the whole picture.

Table 8.3 shows the results of the four standard multiple regressions that were performed with each of the psychological well-being measures used as dependent variables and overall commitment to belief, optimism, coping strategies of positive reinterpretation and growth and denial, and appraisals of challenge and loss used as independent variables. Included in this table are the unstandardised regression coefficients ( $B$ ), the standardized regression coefficients ( $\beta$ ), the semi-partial correlations ( $sr^2$ ),  $R$ ,  $R^2$  and adjusted  $R^2$ . For the total sample, the regression statistic ( $F$ ) was significantly different from zero for somatic symptoms ( $F(5,166)=5.73$ ,  $p<.001$ ), anxiety ( $F(4,165)=14.55$ ,  $p<.001$ ), depression ( $F(5,164)=13.11$ ,  $p<.001$ ), and social dysfunction ( $F(6,159)=11.01$ ,  $p<.001$ ). For somatic symptoms, optimism and challenge appraisals account for unique variance in the prediction of this psychological well-being measure. For anxiety, optimism accounts for unique variance in the prediction of this well-being measure. For depression, optimism and denial account for unique variance in this well-being measure. For social dysfunction, overall commitment to belief, optimism, and challenge appraisals account for unique variance in the prediction of this well-being measure.

**Table 8.3:** Regression analysis for somatic symptoms, anxiety, depression and social dysfunction using overall commitment to belief, optimism, positive reinterpretation and growth, denial, and challenge.

N=176			
	B	<i>B</i>	<i>sr</i> <sup>2</sup>
<b>Somatic Symptoms</b>			
Factor 1 – Overall Com.	0.01	-0.09	
Factor 2 – Optimism	-0.16	-0.23	0.05**
Factor 3 – PRGrowth	0.04	-0.03	
Factor 4 – Denial	0.09	0.06	
Factor 5 - Challenge	-0.09	-0.16	0.03**
		$r^2$	=0.30
		<i>Adj r</i> <sup>2</sup>	=0.29
		<i>r</i>	=0.55**
<b>Anxiety</b>			
Factor 1 – Overall com.	-0.02	-0.10	
Factor 2 – Optimism	-0.31	-0.38	0.14**
Factor 3 – PRGrowth	-0.09	-0.05	
Factor 4 - Denial	0.22	0.13	
		$r^2$	=0.26
		<i>Adj r</i> <sup>2</sup>	=0.24
		<i>r</i>	=0.51**
<b>Depression</b>			
Factor 1 – Overall com.	0.01	-0.01	
Factor 2 – Optimism	-0.21	-0.35	0.12**
Factor 3 – PRGrowth	-0.09	-0.08	
Factor 4 – Denial	0.28	0.23	0.05**
Factor 5 - Challenge	-0.05	-0.09	
		$r^2$	=0.29
		<i>Adj r</i> <sup>2</sup>	=0.26
		<i>r</i>	=0.53**
<b>Social Dysfunction</b>			
Factor 1 – Overall com.	-0.03	-0.19	0.04**
Factor 2 – Optimism	-0.17	-0.28	0.08**
Factor 3 – PRGrowth	-0.12	-0.09	
Factor 4 – Denial	0.08	0.01	
Factor 5 – Challenge	-0.08	-0.16	0.03**
Factor 6 - Loss	0.05	0.07	
		$r^2$	=0.29
		<i>Adj r</i> <sup>2</sup>	=0.27
		<i>r</i>	=0.54**

p<.05\*, p<.01\*\*

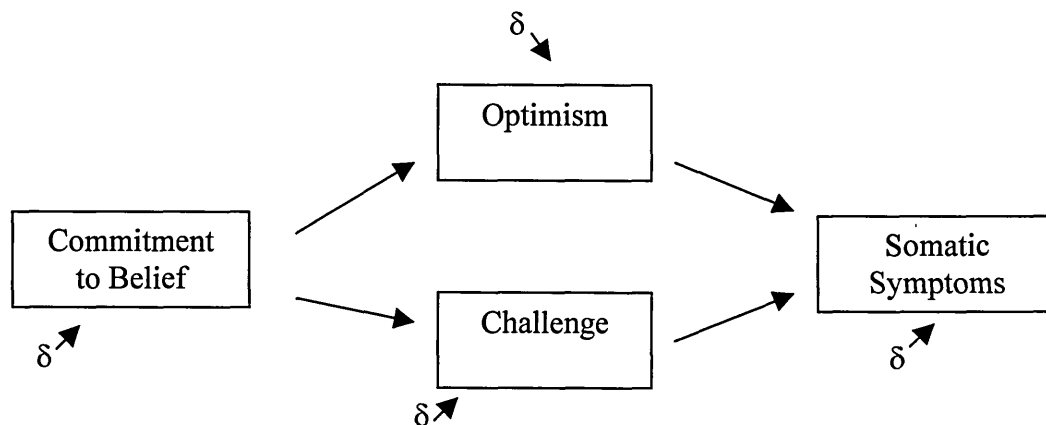
To take this analysis a step further, the findings from the multiple regression analysis suggest four models of how these variables are operating.

Structural equation modeling and path analysis are techniques which allow the testing of how well a particular hypothesized model fits the data; it is used to confirm a model not to explore one; or to enable a choice between two competing models to be made. Therefore, it is usual practice, within research, that structural equation modeling is recommended only after findings from the data have been replicated (Hoyle, 1995; Hoyle & Panter, 1995).

However, given the previous findings of optimism being significantly correlated to commitment to belief, in chapter five, given the fact that four models are presented, and tested through regression analysis, and given the data is confounded only within the realms of this thesis, this chapter begs the opportunity to take forward the proposed models for analysis, if not only to provide full information for future comparisons. Therefore, path analysis was performed (as variables are observed variables and not latent), with the recommendation that all findings must be treated with caution until further replication can be made.

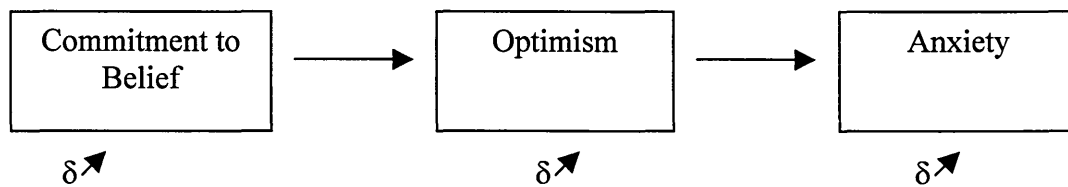
1. The first multiple regression suggests that the relationship between commitment to belief and somatic symptoms is accounted for by the measures of optimism and challenge. Therefore, the following model can be drawn up, and tested using path analysis.

Model 1. Mediated path model suggesting commitment to belief's relationship with somatic symptoms is mediated by optimism and challenge appraisals.



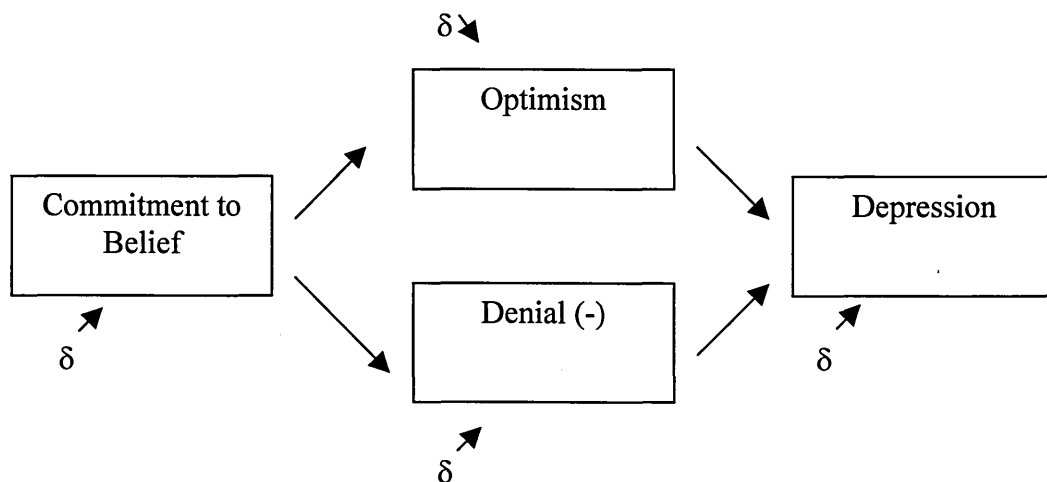
2. The second multiple regression suggests that the relationship between commitment to belief and anxiety is accounted for by the measure of optimism. Therefore, the following model can be drawn up, and tested using path analysis.

Model 2. Mediated path model suggesting commitment to belief's relationship with anxiety is mediated by optimism.



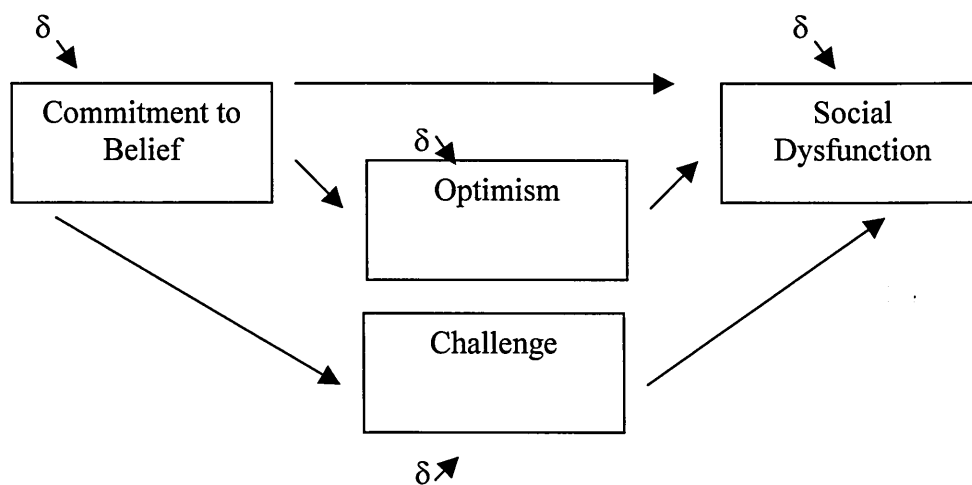
3. The third multiple regression suggests that the relationship between commitment to belief and depression is accounted for by the measures of optimism and denial. Therefore, the following model can be drawn up, and tested using path analysis.

Model 3. Mediated path model suggesting commitment to belief's relationship with depression is mediated by optimism and denial.



4. The fourth multiple regression suggests that the relationship between commitment to belief and social dysfunction is accounted for by the measures of overall commitment to belief, optimism and challenge. Therefore, the following model can be drawn up, and tested using path analysis

Model 4. Mediated path model suggesting commitment to belief's relationship with social dysfunction is mediated by optimism and challenge appraisals.



The models were analysed using PRELIS and LISREL 8. The following LISREL analysis was assessed on the co-variance matrices. PRELIS analysis was used to assess the univariate and multivariate normality of the measured variables. The model parameters were estimated using LISREL 8. Co-variances were all found to be less than 1 and none of the negative error variances were found to be approaching zero suggesting the parameters were free within the subsequent analysis.

Table 8.4 shows the goodness of fit statistics reported for each of the models. Using a cutoff criteria of .95 for the ML based statistics (TLI, IFI, CFI), .08 for SRMR and .06 for RMSEA (Hu & Bentler, 1999), the goodness of fit

statistics suggest that all models with the exception of model 3 suggest a relatively good fit of the data.

**Table 8.4:** Goodness of Fit Indexes for the four models.

	$\chi^2$	SRMR	RMSEA	GFI	AGFI	PGFI	NFI	TLI	CFI	IFI
								(NNFI)		(BL89)
Model1	4.28	.04	.08	.99	.94	.20	.94	.90	.97	.97
Model2	3.02	.04	.11	.99	.93	.16	.96	.92	.97	.97
Model3	12.88	.08	.17	.97	.83	.19	.88	.69	.90	.90
Model4	1.76	.03	.07	1.00	.95	.10	.98	.95	.99	.99

## Discussion

The present study considered the origins of commitment to belief as better fitting within coping styles and stress appraisals, which lead to better effects on well-being. A number of hypotheses were made: (1) An individual with strong commitment to belief should, when confronted with a stressful event, use Challenge appraisals, and not appraisals of Threat and Loss, when using primary appraisals; (2) an individual with strong commitment to belief should, when confronted with a stressful event, engage in problem-focused coping (adaptive behaviour) rather than emotion-focused coping (maladaptive behaviour); and (3) an individual with strong commitment to belief should be more optimistic. As well as these specific hypotheses, a number of models were tested in order to consider how commitment to belief is operating with these social cognitive dynamics.

Correlational findings showed that overall commitment to belief was positively related to challenge appraisals, and negatively related to loss appraisals (hypothesis 1), positively related to active coping, positive reinterpretation and growth, and negatively related to denial (hypothesis 2), and positively related to optimism (hypothesis 3). Also, commitment to belief was negatively related to somatic symptoms, anxiety, depression, and social dysfunction. These findings

suggested that commitment to belief is involved when appraising a stressful situation, which, in turn, is related to better well-being, however, it does not explain which mechanisms may underlie the relationship between commitment to belief and psychological well-being.

The multiple regression and path analysis findings provide some possible information on this. Following these analyses a number of models have been outlined that could explain the dynamics of commitment to belief. Therefore, in model 1, a commitment to belief gives an individual better optimism, and spurs individuals to use challenge appraisals, which in turn, reduces somatic symptoms. In model 2, commitment to belief gives an individual better optimism, which then reduces anxiety. In model 3, commitment to belief gives an individual better optimism, and reduces denial, which in turn, reduces depression (however, the path analysis does not suggest this is a good fit). Finally, in model 4, commitment to belief directly reduces social dysfunction, but also gives an individual better optimism, and spurs individuals to use challenge appraisals, which in turn, reduces social dysfunction. However, again, it must be noted that, although these findings are indeed promising, such post hoc modeling is not usually recommended. Therefore, further research must be undertaken to replicate these models.

Therefore, findings from this study begin to suggest some overall findings, with the individual who demonstrates a strong commitment to belief showing a ‘positive-engaging’ typology. That is, that an individual who has strong commitment to belief engages in challenge appraisals, positively reinterprets stressful situations to gain growth, doesn’t tend to use denial, and is more optimistic. It is argued that it is the engagement in these behaviors that help the individual with a strong commitment to belief to better psychological well-being. It is also worth noting that optimism is present in each model hypothesised to explain the relationship between commitment to belief and psychological well-being.

This ‘positive-engaging’ description is very reminiscent of Jungian descriptions of this character. That such a character is likely, when on a strong path toward individuation, to look for meaning and a reason for being which helps them to face life’s struggles openly and with courage, dealing with problems in a positive light by seeing the problem as a way to develop and, thus, grow nearer to individuation. However, whether these are part of wider traits (stress appraisal and coping), or can be integrated fully within Jungian theory needs to be further explored.

One further point, in chapter seven, social dysfunction was the only significant relationship found when considering an ABC model. Similarly, social dysfunction is the only dimension of well-being that commitment to belief accounted for unique variance in, within this chapter. This finding is perhaps of some interest, and may be important in explaining how an individual with a higher commitment to belief actually operates in the social world. The items of the social dysfunction scale suggest that an individual low in social dysfunction is able to continue with everyday activities and, as such, this finding is reminiscent of the Jungian description of a person aiming for individuation who is able to engage fully and positively with the world rather than a person who withdraws.

The present findings suggest mechanisms such as positive behaviours of optimism, challenge appraisals, positive reinterpretation and growth are not only related to a strong commitment to belief, but may also help explain the relationship between commitment to belief and psychological well-being. Thus, it could be that commitment to belief is in fact working ‘within’ cognitive dynamics to enhance individuals psychological well-being, i.e. that it works with optimism to help individuals positively appraise events and then to decide on more adaptive coping styles. Further, the relationship between commitment to belief and these positive behaviours suggest that this relationship may be best conceptualized, overall, within, rather than outside a Jungian psychological framework.



## **CHAPTER NINE**

### **Discussion**

## Summary

Chapter nine will assess how well the aims presented in this thesis have been addressed. Firstly, a summary of the findings found within this thesis are presented, along with an examination of the issues raised in the opening chapter where it was thought further research may be useful in the understanding of the positive effects of belief on mental health. Secondly, a discussion of the implications of the findings from this thesis for the theories around belief, and how the findings can impact on/contribute to this psychological literature is presented. Thirdly, there is an attempt to integrate the important findings from the current series of studies into the wider context of the importance of belief, and future possible uses of commitment to belief. Unresolved issues are also addressed. Finally, an attempt is made to integrate the important findings from this thesis, along with the proposition that this thesis can be used as the foundation to enable applied considerations of commitment to belief in future research. In sum, this thesis builds constructively upon previous research, providing good theoretical guidance, and suggests avenues for future research.

This thesis has sought to systematically examine the relationship between commitment to belief and positive effects on mental health. This final chapter will assess how well this aim has been addressed. Initially, there will be a summary of the findings found within this thesis, and an examination of the issues raised in the opening chapter where it was thought further research may be useful in the understanding of the positive effects of belief on mental health. Following this, there will be some discussion of the implications of the findings from this thesis for the theories around belief, and how the findings can impact on/contribute to this psychological literature. Thirdly, there will be an attempt to integrate the important findings from the current series of studies into the wider context of the importance of belief, and future possible uses of commitment to belief. Unresolved issues will also be addressed here. Finally, an attempt will be made to integrate the important findings from this thesis, along with the proposition that this thesis can be used as the foundation to enable applied considerations of commitment to belief in future research.

### **Overview of findings**

The review of the literature in chapter one of this thesis suggested that the research into belief tends towards considering them as specific, independent beliefs; not as how and why belief, as a construct, functions as it does, but how specific beliefs (such as religion, luck etc) are structured, formed or changed, and what psychological purpose these specific beliefs serve, leading to a lack of theoretical guidance when conceptualising beliefs as a whole. The literature suggests that beliefs can be related to an individual's mental health, though often, within sets of the literature, a distinction can be made as to whether the belief has a *positive* effect or a *negative* effect on mental health. For instance, religious themes of belief (e.g. Allport & Ross, 1967; Freud 1907; 1927/1961; Genia & Shaw, 1991; Jung, 1958; Maltby, 1999; Pargament, 1990; 1997) have identified three main religious orientations that have varying effects on psychological well-being; (i) an *intrinsic* orientation, where a person lives their religious beliefs, the

influence of which is evident in every aspect of their life; an *extrinsic* orientation, which is split into (ii) *extrinsic-personal*, where individuals look to religion for comfort, relief, and protection, and use religious practices for peace and happiness, and (iii) *extrinsic-social*, where individuals look to church for making friends, creating social status, and being part of an in-group. Overall, an intrinsic orientation has been found to have a better effect on well-being, reducing, anxiety and depression, and increasing self-esteem (Allport, 1996; Allport & Ross, 1967; Baker & Gorsuch, 1982; Batson, 1976; Batson & Gray, 1981; Batson & Ventis, 1982; Bergin, 1983; Fleck, 1981; Genia, 1991; 1996; Genia & Shaw, 1991; Kahoe & Meadow, 1981; Kirkpatrick, 1989; Koenig, 1995; Leong & Zachar, 1990; Maltby, 1999; 2000; Maltby, Lewis & Day, 1999; Nelson, 1989; 1990; Park, Cohen & Herb, 1990; Sturgeon, 1979; Watson, Morris & Hood, 1989); as opposed to extrinsic orientations towards religion where results suggest belief can be detrimental to mental health (e.g. Gorsuch & Venable, 1983; Gorsuch & McPherson, 1989; King & Hunt, 1969; Leong & Zachar, 1990; Maltby, 1999). Thus, there is a clear distinction between certain religious beliefs affecting mental health in a positive way, and certain, other, religious beliefs affecting mental health in a negative, or detrimental, way. Similarly, authors have begun to re-evaluate the notion that luck is maladaptive, and instead, their findings show that it is adaptive (has a positive effect) when considering the positive illusions around *good luck*; leading to feelings of confidence, control and optimism, increasing self-esteem, and reducing levels of depression and anxiety (Darke & Freedman, 1997a; Day, Maltby & Macaskill, 1999; Day & Maltby, in press; Taylor & Brown, 1988); as opposed to bad luck. It was argued, then, in chapter one, that further research was needed into the underlying principles of belief itself and how this influences a positive or negative effect, rather than concentrating on specific phenomena of belief. This thesis has concentrated on investigating the reasons/importance of positive effects; it is suggested that a full research programme would be needed separately for the reasons for negative effects.

Alongside this, within present research on religiosity and luck, there is little overarching theoretical guidance that suggests the reasons for these positive

outcomes. Usually researchers, on reflecting on such findings, are often seen to conclude that individuals demonstrating these set beliefs are able to ‘cope better’ than those other individuals that do not show these aspects of belief (e.g. Pargament, 1990; 1997). Such theorising, regarding the influence of religious coping, for instance, in the relationship between religious orientation and psychological well-being, is useful. However, this consideration cannot, at present, be expanded into a wider theoretical context, i.e. religious coping cannot be used to explain the positive and negative distinction in, for example, the belief of luck etc, and rather, like religious orientation, theory is led by findings from analysis of scales rather than any driving rationale. Similarly, with belief in ‘good’ luck, authors conclude good luck may provide an important means of coping with the very real influences that chance sometimes has on everyday life (Darke and Freedman, 1997; Day, et al (1999). However, despite some findings that optimism may play an important role in the relationship between belief in good luck and mental well-being (Day & Maltby, in press), again there is little overarching theoretical guidance for this relationship. It was then argued, in chapter one, that a need to consider these positive effects on mental health in more than ‘coping’ terms should be forthcoming.

One aspect to the present literature findings, on occasions when distinctions can be made between different types of belief, is that, sometimes, certain dimensions may reflect a commitment. This is none so apparent as in the research reporting the role of religious belief, where the individual has somehow internalised their belief, i.e. that a person has become committed to that belief, and thus it has become an underlying principle. Similar ideas around the importance and commitment/strength of beliefs are echoed in the belief in good luck literature, where this concept of a committed set of ideas being lived, can also be found. Within this literature, belief in good luck is seen as an attempt to understand the world, particularly in response to events in our lives that are largely beyond any direct attempts to control (Darke & Freedman, 1999). It was argued in chapter one, that such findings need to be conceptualised within a wider theoretical framework, that may not only be used to explain a set of behaviours

related to a commitment to belief, but may be useful in understanding why different types of belief, such as religion and luck, demonstrate a positive effect on psychological well-being, as well as, or in place of, a negative effect.

It was finally argued, in chapter one, that theoretical guidance for research on belief was lacking. Therefore, it was suggested that Jungian theory on belief could be used to inform modern psychology on the processes of underlying belief; Particularly, whilst focussing on two areas of; (i) conceptualising a commitment to belief, and (ii) using commitment to belief to explain positive mental health effects.

Therefore, in the discussion of the relevant research (see chapter one) it was argued that there appeared to be several issues that needed to be addressed in future research, and it was thus the aim of this thesis to address these key issues. Therefore, the main aim of the preceding studies was to examine a functional role of overall commitment to belief which argues (i) that a commitment to belief is important; (ii) that overall belief will be related to mental health and well-being; and (iii) that it is the strength of belief in itself that is important and not the type of belief. Such considerations included the development of an overall commitment to belief measure, and hypotheses derived from both Jungian theory and the present literature concerning belief. It was also a major aim of the studies to account for any alternative explanations of results found in support of overall commitment to belief.

### 1. The development of an overall commitment to belief measure

Chapter one speculated the importance of belief to the well-being of the individual. In summary, the reviewed literature suggested that three basic dimensions underlie the importance of belief; (i) that a *commitment* to belief is important (i.e. that it is internalised, stable across time, and used within all situations within one's life); (ii) that the belief will be *related to mental health*, or *well-being*; and (iii) that the *strength* of the belief in itself is important and *not*

necessarily the *type* of belief. However, belief, so far, had been considered within specific contexts such as religion, spirituality, conservatism, irrationality, rather than generic measures. Thus, chapter two set out to present a psychometric test in which to measure commitment to belief. Chapter three considers this new measure in terms of reliability and validity.

Within chapter two, a measure of Commitment to Belief was developed and compared to measures of psychological well-being, personality and attribution style. It was argued that the Commitment to Belief Scale should (i) measure all underlying core belief (beliefs that are central to the person), and must not be reliant upon one type of belief; (ii) be able to measure the size of commitment within that belief (i.e. its strength of belief, whether it is evident within all aspects of one's life); and (iii) be considered alongside measures of health and well-being. Adaptations of personal construct theory and attribution style as a basis for reaching these aims seem successful, with findings demonstrating reliability and validity in measuring individuals' commitment to a set of beliefs. Exploratory factor analysis suggested both a one factor (an overall commitment to belief) and three-factor model of commitment to belief (internal, global, and stable aspects), in which both models are related to better psychological well-being (higher self-esteem, lower depression, lower anxiety, lower levels of somatic symptoms and social dysfunction), and largely fall outside personality space (Eysenck), and attribution style.

Within chapter three, six studies aimed to provide further consideration of the reliability and validity of the Commitment to Belief scale (CTB). Overall, the studies showed that the constructs generated by the scale were valid and useful, the scale was shown to have a stable factor structure, a high test – re-test reliability, and further construct validity by a lack of relationship with irrational and just world beliefs. However, confirmatory factor analysis was unable to suggest whether a one or three-factor model was a more appropriate description of the Commitment to Belief scale. Nevertheless, both models apply to the theory presented, and thus, it was suggested that future work should continue to report

correlations for both the 1-factor and 3-factor solutions in order to present a full consideration. Clearly further examination of the factor structure of the Commitment to Belief scale is required.

In summary the implications for the findings of these studies were envisaged to be positive (even at the early stages of the development of this new scale). There were two reasons: the first is that a more accurate holistic belief instrument is now available, rather than relying on previous instruments of individual beliefs; and, second, given the confidence in this new measure, studies of the effects of commitment to belief, and the implications of this commitment on theoretical underpinnings could now be established to belief and psychological well-being, and the relationship of commitment to belief to psychological theory. Unresolved issues concerning the Commitment to Belief scale, and suggestions for its future use are discussed later within this chapter.

## 2. Commitment to belief and hypotheses derived from Jungian theory concerning belief

Chapter two and three showed development of a measure of commitment to belief that showed reliability and validity. However, at this point, there was little support for a theoretical context for this measure. As the measure was developed from aspects of Jungian theory, a programme of research was necessary to test ideas around a commitment to belief against ideas derived from Jungian theory. Given, then, that this thesis had, so far, established the reality of the concept of commitment to belief within individuals, it seemed proper to consider the mechanisms behind it. Three primary ideas emerged. The first was the possible relationship between commitment to belief and the notion of individuation, considered in chapter four. The second focused on personality types, the third on optimism; both were considered in chapter five.

Within chapter four, studies aimed to examine the relationship between commitment to belief and measures of individuation and self-actualisation derived



from Jungian theory to provide evidence for a theoretical context for recent findings with the Commitment to Belief scale. Study 1 found evidence to suggest that aspects of commitment to belief are related to words associated with some aspects of individuation, but not necessarily symbols associated with individuation (Tarot). These findings were intriguing, raising problematic issues, as well as interest. It has been argued that conflicting findings with the Tarot cards may be due to two reasons; (1) there is no relationship between individuation and commitment to belief, thus, commitment to belief is working totally independent of this Jungian process; or (2) results could be typical to the problems raised by Kline (1987) and Sjoback (1992), who suggest that measuring the unconscious is, as yet, impossible. Findings could also be due to the modern day popularity of the Tarot cards, distorting their original meaning. However, although findings here gave somewhat limited support, it has been proposed (e.g. Kline, 1987) that projection tests could be the way forward, thus further research should be considered using the Tarot cards, perhaps using some more stringent measure. However, the findings for a relationship between commitment to belief and individuation with the use of word association are fascinating, and seem promising for further investigation. The findings certainly do not show an unconscious individuation process, but they do suggest that people who show higher levels of commitment to belief are attracted to words and phrases such as Strength, Energy, Happiness, Triumph, Reward for Past Effort, Settlement of Matters, Renewal, Growing Awareness, and Self-appraisal. It was also found, here, that people who score highly on the Commitment to Belief scale like, or show affiliation for, the kinds of concepts and ideas demonstrated by these words. Thus, placing these individuals inside the ideas of Jungian theory, liking concepts of completion and wholeness. However, as previously mentioned, the findings are far from conclusive, and the present consideration suggests little understanding of whether these people are driving for individuation. Nevertheless, the findings are intriguing and worthy of further study, particularly by considering a factor structure to the word/phrases with a larger sample.

In study 2, commitment to belief was found to be related to self-actualisation as measured by the Measure of Actualization of Potential, with more detailed relationships being revealed by the Commitment to Belief scale's association with some of the scale's subscales, namely openness to life, openness to experience and overall scores for actualisation potential. Although self-actualisation is not the same concept as Jung's individuation, it is considered within the literature as a similar concept and worthy of investigation. The reason why other aspects of self-actualisation do not correlate with commitment to belief may reflect theoretical differences between individuation and self-actualisation, however, the subscales of the self-actualisation scale that are related, provide further support for commitment to belief showing some level of openness and actualization. Further research might wish to extrapolate some of the theoretical distinctions between these concepts and investigate further the relationship between measures of self-fulfilment and commitment to belief. These findings, then, from both studies, suggest that those individuals who show a high level of commitment to belief associate themselves with concepts that can be described in the process of individuation and self-actualisation.

In summary, the findings suggest that those who score high in commitment to belief are attracted to words/phrases/statements relating to aspects of development, growth, wholeness, completeness, reflection, and self-actualisation as described by Jung in the process of individuation, and other theorists concerned with the development of the self. These present findings also suggest these relationships might be better measured by the use of clusters of words rather than symbolic images. These present findings do not place these people totally inside Jungian concepts, however, as the present consideration does little to establish whether these processes are unconscious. However, the present findings suggest that those who show a high level of commitment to belief do associate themselves with concepts described in the process of individuation and self-actualisation.

Within chapter five, studies aimed to examine the relationship between commitment to belief and measures of Jungian personality types and optimism based on hypotheses derived from Jungian theory to further provide evidence for a theoretical context for findings with the Commitment to Belief scale. Study 1 found that aspects of commitment to belief are related to extraversion (suggesting that an individual who is committed in their beliefs may also be demonstrating confidence and carefree behaviours), and sensing personality dimensions (suggesting that they carry their beliefs as a way of perceiving the world into all life's experiences). However, the finding of extraversion contradicts the findings in chapter two where no correlation was found between Eysenck's extraversion dimension and commitment to belief, thus, future research is needed to replicate these findings. It is also worth noting, here, that the sample size for this study was small, thus suggesting further need to replicate the findings in a much larger sample. In study 2, commitment to belief was related to optimism, and was consistent with a-priori predictions, i.e. that a person, in order to strive for meaning and persevere, regardless of what life throws at them, appears to have adopted a strong positive outlook (optimistic) on life, seeing challenges etc as ways of developing and growing, which in turn leads to a healthier, deeper self. In sum, the findings of significant relationships between commitment to belief and Jungian personality types can be explained within Jungian psychology. However, such speculations need to be further examined within more specific predictions relating to particularly traits before any firm conclusions can be drawn. The positive relationship between commitment to belief and optimism suggests that optimism may provide a context for understanding the mechanisms that might be involved in the relationship between commitment to belief and psychological well-being, this relationship, then, was re-visited and expanded upon in chapter eight.

Overall, due to theoretical guidance for the commitment to belief hypothesis finding its origins within Jungian ideas, chapters four and five attempted to investigate whether the concept of commitment to belief should lie within, or outside, of Jungian theory. Findings gave mixed conclusions,

suggesting some significant relationships between individuation and commitment to belief, but some inconclusive relationships were also apparent. Altogether, relationships suggest promise for future research, with improved methodologies, to embed this construct within Jungian theory, but as yet this relationship is unclear.

### 3. Commitment to belief and hypotheses derived from present literature concerning belief; spirituality and religiosity

The commitment to belief hypothesis had been developed from Jung's observations around individuals' belief being deeply committed (internalised, stable across time, and used within all situations within one's life). However, Jung's ideas were deeply enveloped within religion and spirituality, whereas this thesis has argued that it is the *strength* of belief (commitment) that is important and not necessarily the *type* of belief (e.g. spirituality or religiosity). However, given that commitment to belief has already been found to be congruous with a number of Jungian concepts, and given the importance of religiosity and spirituality in Jungian theory, it was deemed necessary to consider whether commitment to belief is, in fact, related to religion and spirituality.

Within chapter six, Pearson product moment correlations revealed no significant relationships existed between all aspects of commitment to belief and measures of religion and spirituality. These findings suggest that commitment to belief is separate from religiosity and spirituality, and demonstrates further support for the construct validity of commitment to belief.

In sum, the findings in chapter six support the argument for the concept of commitment to belief. It was demonstrated that commitment to belief is not simply another way of measuring the specific beliefs of religion and spirituality, and suggests a departure from Jungian theory. Findings also suggest confidence in using the measure with other belief sets without the worry that the scale may reflect deeper aspects of religiosity and spirituality.

#### 4. Alternative explanations of results found in support of overall commitment to belief using cognitive variables

In chapter one, this thesis presented a concept of commitment to belief as a possible explanation for positive effects of belief on mental health (i.e. why intrinsic religiosity may better benefit an individual as opposed to extrinsic religiosity; why belief in good luck may be more beneficial than a belief in bad luck etc). It also attempted to provide theoretical guidance for this concept by considering similar concepts proposed by Jung. Here, findings in chapters four to six show some partial, but intriguing support for commitment to belief being entwined within Jungian theory. However, it was considered prudent, given the conflicting findings, to take these investigations further, not only by further exploring Jungian concepts, but by considering commitment to belief within modern psychological paradigms, in an attempt to establish its origin or dynamic. Particularly within the finding that commitment to belief is related to better psychological well-being. Therefore, it was necessary to expand these findings to explore whether commitment to belief is directly responsible for effects on mental health and well-being, or whether it works within other psychological mechanisms to create this effect.

Within modern psychology, there are a number of concepts that could be considered to explain the mechanisms of commitment to belief, and its relationship to psychological well-being, that work outside, or alongside, Jungian theory. Four dimensions of cognitive theory were investigated; (1) in chapter seven it was attempted to conceptualise what is happening with commitment to belief by borrowing aspects of a well-established model (Ellis's model of ABC; Ellis, 1973; 1994); in chapter eight alternative explanations for commitment to belief were considered through the cognitive variables of (2) stress appraisals, (3) coping, and (4) optimism.

Within chapter seven, a theoretical context for the relationship between commitment to belief and psychological well-being was considered using a simplification of Ellis' ABC model. To test this model, those respondents who indicated that they used their beliefs to deal with a stressful life event were scored on how committed they were to that belief set using the Commitment to Belief scale. However, findings suggested little support for Ellis's theory aiding the conceptualization of the relationship between commitment to belief and better psychological well-being; however, there was some support that commitment to belief may aid an individual to engage in everyday life, after a stressful event. Methodology issues, however, were raised as problematic, suggesting ways forward by; shortening the period of time between the stressful event and completion of the questionnaire; by considering other methods of measuring stressful events, such as daily hassles and uplifts (Lazarus, 1984); and by looking at other theories of stress (some of which are considered in chapter eight). However, although plenty of suggestions are made as to how to improve on this methodology, it is considered by the author that suggestions made in this chapter are flawed, for instance, conceptualising the mechanisms of commitment to belief may not be possible through an Ellis explanation, indeed, it could be argued that testing this way oversimplifies Ellis's process model, which is really immensely complex. Although this study was only considering Ellis's model as a way to operationalise commitment to belief, and not to test Ellis' model per se, this may have added to the problems. It is also considered, with the benefit of hindsight, that findings from chapter eight are far more informative for explaining the mechanisms of commitment to belief.

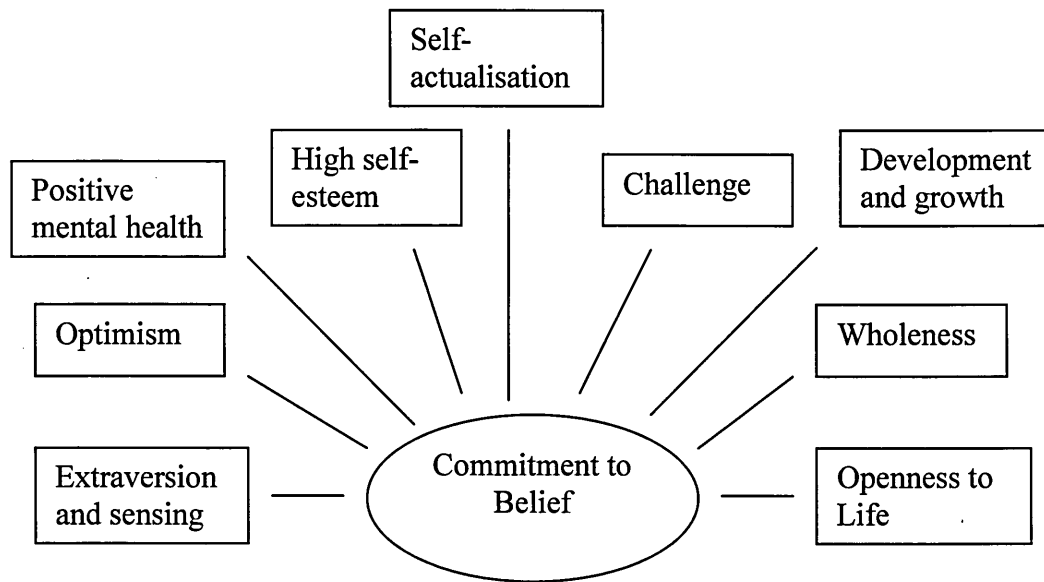
Within chapter eight, a theoretical context for the relationship between commitment to belief and psychological well-being was considered using models around stress appraisal and coping. Findings from these studies suggested mechanisms such as positive behaviours of optimism, challenge appraisals, positive reinterpretation and growth are not only related to a strong commitment to belief, but may also help explain the relationship between commitment to belief and psychological well-being. Thus, it could be that commitment to belief is in

fact working ‘within’ cognitive dynamics to enhance individuals psychological well-being, i.e. that it works with optimism to help individuals positively appraise events and then to decide on more adaptive coping styles (further discussion on optimism will be addressed later within this chapter). Further, the relationship between commitment to belief and these positive behaviours provided further support that the relationship may be best conceptualised, overall, within Jungian psychology, rather than outside Jungian psychology.

Thus, to simplify these findings into everyday language, a person who shows a deep commitment to their beliefs can be conceived within a typology, demonstrating certain traits and behaviours. This individual;

- Has an openness to life, open to experience, and has potential for self-actualisation
- Is attracted to words and phrases of strength, energy, happiness, triumph, reward for past events, settlement of matters, renewal, growing awareness, and self-appraisal
- Is high in self-esteem; low in depression, anxiety, social dysfunction, and somatic symptoms
- May be extraverted (presently findings are inconsistent), demonstrating a confident and carefree nature; uses their beliefs as a way of perceiving the world into all life’s experiences
- Is optimistic, seeing challenges as a way of developing and growing, thus uses challenge appraisals, and positive reinterpretation and growth
- Uses beliefs to aid them through stressful life events

Thus, a model illustrating the outcomes for the individual can be drawn;



**Figure 9.1:** A model showing the mechanisms affected by a commitment to belief

There is one note of caution with this model. This model is based on the significant correlations found between Commitment to Belief and a number of variables across a number of studies. However, it must be noted that some variables have been excluded from this model (for example, Tarot Card Judgement in Chapter 4; correlated .28 with global subscale of commitment to belief scale;  $p > .05$ ,  $n=42$ ) even though they demonstrate an equivalent size of correlation, with Commitment to Belief, to variables that have been included in this model (for example, Openness to Experience, Chapter 4, correlated .28 with Overall Commitment to Belief,  $p < .01$ ,  $n=176$ ). This is because there has been a strict adherence to significance testing throughout this work. These differences are a perennial problem with significance testing because significant relationships between variables are influenced by sample size. However, it must be remembered that conclusions brought forward from each study (i.e. those variables significantly related to commitment to belief) are based around confidence levels based on that specific sample. Therefore some variables have been excluded in this way, despite equivalent correlations sizes, because they



have been discovered among smaller samples and there is not enough evidence to bring these variables, with confidence, into this model.

Notwithstanding such discussion, it can be seen, that so far, the Commitment to Belief scale is extremely promising, informing research as to the type of person, who is committed to their beliefs, i.e. their behaviours and personality, as well as how this commitment to belief affect mental health. The findings and the subsequent model provides a rationale for the positive effects of belief.

The Commitment to Belief scale, then, can be used to demonstrate a reflection on the wider literature mentioned at the outset. Namely, the scale has an immediate impact on the current literature mentioned in chapter one, i.e. religion and luck. For instance, researchers can now, not only investigate behaviours and orientations of religiosity or luck, but can investigate how committed they are to these behaviours, as well as the constructs the individual possesses around this belief. For example, authors researching religiosity have found significance with the frequency of prayer; here, it is those persons, who show a commitment to prayer (i.e. once a day or more) that show better mental-health. Thus, the Commitment to Belief scale can be used alongside measures of prayer to inform authors as to the reasons why this is so. Instead of knowing that prayer is significant, authors, then, can now understand the rationale as to why it is important; by investigating the constructs behind individual's commitment to prayer, and how the practice of prayer allows the individual to cope better with life, give meaning to their life, a way of reflection, for example. It can allow authors to identify between those who are committed to prayer and those who simply use it as part of their religion, in order to identify the dynamics of positive effects on health.

Similarly, the literature around good luck suggests that belief in good luck is seen as an attempt to understand the world, particularly in response to events in

our lives that are largely beyond any direct attempts to control (Darke & Freedman, 1999). The uncertainty associated with the possibility that such events may occur can be quite disconcerting, especially when the consequences are substantial. Rothbaum, Weisz and Snyder (1982) suggest that irrational beliefs about luck may allow individuals to remain optimistic even when it is objectively impossible to exercise direct control over one's circumstances. As such, it is argued that it is this belief that gives meaning to life and events, and adherence to this belief set helps the person interpret, understand and deal with the world. These explanations by authors, however, have been purely speculative, possessing no rationale, however, the Commitment to Belief scale can now be used to identify whether these speculations are correct, thus, providing theoretical guidance, or indeed, whether different constructs better explain these positive effects.

This immediate impact then, demonstrates the importance for the present rationale of this thesis, and also provides support for the methodology chosen. It was argued in chapter one, that qualitative research could be useful to investigate the concept of commitment to belief, however, it was felt to be an inappropriate methodology for two main reasons; (i) it has been established, within this thesis, that the research on beliefs is extensive, and in order to present a valuable contribution to the literature, the research here needed to be able to be extrapolated to all these populations. It was felt that qualitative research (because of the limited amount of participants used in this methodology) would not enable this contribution. (ii) Because of the nature of research, i.e. considering an underlying construct of belief, in which to explain the positive effects on well-being within areas such as religion and luck, it was deemed necessary to fall *in line* with the generally accepted methodology within these areas, in other words quantitative. Therefore, a quantitative programme of research was followed. These arguments, then, seem to have been well founded, and an immediate impact is apparent.

## **Contributions to the psychology literature**

The research reported in this thesis, then, has thrown up some very interesting findings that may have implications for theories of the way in which belief effects positive outcomes in mental health. Thus, the preceding studies make a number of contributions to the psychology literature.

### **1. The Commitment to Belief scale**

It has been argued that belief, so far, has been considered, and measured, within specific contexts such as religion, spirituality, conservatism, and irrationality, and have not considered how and why belief, as a whole, functions as it does. Thus, no generic measures of belief, so far, exist.

Therefore, one important contribution to the literature has been the development of a new generic scale that has shown to hold good reliability and validity. Constructs generated by the scale have been shown to be valid, as well as the way the commitment is measured. Also, the scale was shown to have a stable factor structure, high test-retest reliability, no significant association with conservatism, and concurrent validity with respect to a lack of significant correlation with irrational and just world beliefs. This scale enables researchers to measure core belief (beliefs that are central to the person), and the size of the commitment to that belief (i.e. its strength of belief, whether it is evident within all aspects of one's life), which shows significant relationships between commitment to belief and psychological well-being.

As well as the Commitment to Belief scale being able to measure aspects of belief, its usefulness is established by enabling researchers to measure different beliefs, and is not reliant upon one type of belief. Therefore, future uses of the scale can be expanded to measure dimensions of a specific belief, or dimensions to various beliefs. This can be expanded further than just the literature on religion

and luck, and suggestions of how this can be so are considered later within this chapter.

## 2. Theoretical Underpinnings to belief

Within the present research on beliefs, there are many explanations as to how specific beliefs such as religion, spirituality, and luck, are serving the individual, but lack explanation as to how this function operates, therefore, these perspectives lack theoretical guidance. Within the literature, themes such as motivation, positive mental health effects, beliefs being used for a purpose, different attitudes to belief, are alluded to, but never examined across beliefs (Darke & Freedman, 1997a; Day & Maltby, in press; Ellis, 1995; Pargament, 1997; Thoresen, 1999).

An important contribution to the literature, therefore, is the presentation of a theoretical underpinning of belief, as placed within Jungian theory. Indeed, using the theory of Jung, the Commitment to Belief scale has shown that three basic dimensions underlie the importance of belief; (i) that a *commitment* to belief is important (i.e. that it is internalised, and used within all situations within one's life, and is present across time); (ii) that the belief will be *related to mental health*, or *well being*; and (iii) that the *strength* of the belief in itself is important and *not* necessarily the *type* of belief. Findings investigating Jung's concept of individuation suggest that, although results cannot be considered within the processes of the unconscious, individuals who show a high level of commitment to belief associate themselves with individuation concepts such as development, growth, wholeness, completeness, reflection, and self-actualisation. There is some evidence to suggest Jung's personality dimensions (extraversion, and sensing), as part of individuation, are important. Also, when considering commitment to belief to cognitive variables, findings suggest a 'positive-engaging' description, which is very reminiscent of Jungian descriptions of this character. That such a character is likely, when on a strong path toward individuation, to look for meaning and a reason for being which helps them to face life's struggles openly and with courage, dealing with problems in a positive

light by seeing the problem as a way to develop and, thus, grow nearer to individuation. However, whether these are part of wider traits, or can be integrated fully within Jungian theory needs to be further explored. Nevertheless, findings demonstrate that theoretical guidance, using Jungian concepts, have been essential to gain a theory of commitment to belief. In other words, Jung has facilitated the building block needed to enable applied research to take place.

Another contribution to the literature, relating to theoretical underpinnings, is that findings may help researchers understand that certain attitudes and beliefs have more positive outcomes. At present, although the literature suggests that religiosity and belief in luck can be sometimes associated with better psychological well-being, particularly when concentrating on certain aspects of these belief (i.e. intrinsic orientation towards religion, belief in good luck), there is little overarching theoretical guidance that suggests the reasons for these positive outcomes. Usually researchers conclude that individuals demonstrating these set beliefs are able to ‘cope better’ other than those individuals that do not show these aspects of belief. At best, Pargament has considered this idea within religious coping, also authors conclude Good Luck may provide an important means of coping with the very real influences that chances sometimes have on everyday life (Darke & Freedman, 1997; Day, et al, 1999). Although researchers have tried to expand this idea of coping into more detail, very often this is descriptive more than theoretically led. This thesis has established that a commitment to belief gives a rationale/reason to the positive effects of belief on mental health.

Further, not only has it been presented that commitment to belief helps the understanding of why some aspects of beliefs have more positive effects, but it has also been able to establish variables that help explain this relationship. Thus, an individual who has strong commitment to belief engages in challenge appraisals, positively reinterprets stressful situations to gain growth, doesn’t tend to use denial, and is more optimistic. It is argued that it is the engagement in these behaviors that help the individual with a strong commitment to belief to better psychological well-being. Therefore, commitment to belief has not only

been placed within Jungian concepts but it has also been established within modern cognitive paradigms. Thus, Jungian concepts are important, and allow an underpinning of the theory, but commitment to belief tends to be operationalised within the coping literature, particularly its close relationship with optimism. It seems, then, that optimism as a way of coping, is much more important than it is presently considered to be within the literature. Again this contribution can allow further investigations of optimism to take place. Whatever future research shows, optimism, within the theory of commitment to belief, should not be underestimated.

Finally, another major contribution of this thesis is that it has demonstrated that there is relevance and applicability of Jungian psychology within modern, empirical, mainstream psychology.

### **Future Research and Implications**

In this section of this final chapter the need for critical reflection is highlighted. There is a need for an attempt to integrate the important findings from the current series of studies into the wider context of the importance of belief, future possible uses of commitment to belief, and the research's long-term impacts, in order to establish the uniqueness and position of this thesis. Unresolved issues will also be addressed here.

#### *Advice for future uses*

The preceding studies, and comments made earlier within this chapter, give rise to a number of future uses, as well as suggested advice for this use.

### 1. Use of the Commitment to Belief scale

The aim of the Commitment to Belief scale was to elicit as many beliefs as possible from the respondents. The generating of seven beliefs was decided upon, this number was arbitrary, however, from pilot studies (N=5) using the questionnaire, it was suggested that these were as many beliefs as respondents could generate within an appropriate timeframe (approximately 45-60 minutes). Though, for the purposes of this thesis, consideration was to generate as many belief constructs as possible, there is the implication that the Commitment to Belief scale may be too long for future use. Therefore, future research may consider shortening the scale, i.e. to generate three belief constructs instead of seven. Although there is the chance that some of the ‘richness’ of the data may be lost, it could be argued that the loadings across the factors of internal, stable, global, and overall commitment to belief dimensions, throughout, suggests that the first three beliefs generated are as important as the next four beliefs generated. Also, in chapter 2, the alpha coefficient statistic for the internal commitment within sequence 7 was low. This has been argued that, outside of the sample, it may suggest that by sequence 7, all core beliefs have been extracted and the seventh sequence is unnecessary, or, indeed, it may suggest that the respondents have, by this time, become despondent, or bored, of the task. Thus, shortening the scale would alleviate this problem. Therefore, future investigations into an abridged version of the scale are recommended.

### 2. Applications for widening, understanding beliefs within other theories/contexts of belief

The commitment to belief hypothesis was originally derived from observations made about the theories of luck and religion. Thus, the Commitment to Belief scale now presents us with the opportunity to complete this circle. Indeed, researchers have suggested that it is beliefs that help individuals to better understand the world that has positive effects on mental health. For instance, authors argue that this beneficial effect is seen within individuals who ‘live’ their

religious beliefs, seen via personal prayer, and intrinsic orientations toward religion, and enables individuals to gain control over their lives through understanding, seen via belief in good luck. Thus, future applications should involve investigations amongst specific religious, or 'good luck', samples, alongside other measures (e.g. religious coping scale), in order to consider whether commitment to belief accounts for unique variance.

As well as investigating specific constructs within specific samples, there is also the opportunity to go deeper, for instance, not only does the Commitment to Belief scale allow investigations of belief within religion, but it allows the chance to discover what constructs within prayer are helping the individual. Thus, wider applications of this measure would enable greater understanding of established theory.

### 3. Use of the Commitment to Belief scale outside established theories of belief

It has been presented that commitment to belief may be of value to expand existing literature on beliefs, however, other, wider, opportunities are available within other theories of psychology. In chapter 3, findings demonstrated that the Commitment to Belief scale was, indeed, reflecting the general attitude sets of the individual. Thus, for example, a religious individual generated religious constructs, an individual believing in luck generated constructs that are lucky in nature, etc. Therefore, there is an opportunity to compare constructs generated for the Commitment to Belief scale against scores on a number of wider attitude sets.

Opportunities suggest themselves through a variety of applications, such as occupational attitudes, and general attitudes affecting general health.

First, occupational attitudes could be measured in order to establish an individual's commitment to their job. For instance, constructs generated could investigate an individual's commitment to: the aims of their company, i.e. their mission statement; to their general work ethic; to their priorities in life, i.e. does



their work come first, or much further down their list; of their values, etc.

Benefits for companies, then, are twofold (i) for recruitment purposes, and (ii) for appraisals and promotion prospects. Benefits are also available to understand why some individuals suffer more work-oriented stress than others.

Second, because the Commitment to Belief scale has been argued to reflect general attitude sets of the individual, there is an opportunity to compare constructs generated for the Commitment to Belief scale against specific attitudes that have implications on general health. For instance, Jung argues that if we cannot find a strong enough belief, in which meaning is established, then this may be extremely damaging to our mental health. Commitment to belief, then, could be used to further investigate this, perhaps by establishing whether these individuals have weak belief systems, or not.

Also, commitment to belief could be used, outside its normal concept, to understand why certain individuals continue to behave in specific ways, regardless of the effects on health, by considering their belief constructs. Such considerations could be used, for instance, to investigate smoking, over-eating etc. It is argued by smokers, for instance, that there is more to this act than simple addiction, the Commitment to belief scale could be used to identify constructs around this behaviour, which could enable better understanding as to why smokers continue to smoke. Also, it is accepted that these ‘unhealthy’ behaviours/attitudes can present secondary gains for the individual, for instance, with over-eating, the individual may continue the behaviour because they get attention (whether good or bad) from their family, or the habit may prevent them from doing tasks etc that they do not want to do, thus, over-eating can be used as an excuse. Secondary gains are endless, however, the use of the Commitment to Belief scale may help to identify these confounding variables much earlier within therapy. Although these applications are simple speculations, there is, nevertheless, the scope within the Commitment to Belief scale for future, and wider, use, and presents a long-term impact in psychology.

*A note about long-term impacts*

It has been suggested above, how the Commitment to Belief scale could have a long-term impact, both in regards to psychometric measurements of belief to provide further understanding of how belief may aid better mental health, and in regards to the wider context of therapeutic psychology. However, it must be made clear that this thesis has only begun this process, by laying down the foundations to understanding this new process of commitment, and by establishing a scale, and producing preliminary findings in how these beliefs impact on positive mental health. These foundations, then, need to be teased and expanded upon within substantial future research programmes in order to successfully, and fully, apply its considerations. Once this is achieved, further considerations then need to be taken concerning negative effects on health.

*Unresolved Issues*

Alongside the recommendations mentioned above, however, the preceding studies, although demonstrating interesting and beneficial findings, have also given rise to a number of unresolved issues. These issues will be presented here, along with some suggestions as to how these may be eradicated (many of these issues have already been presented elsewhere within this chapter).

1. Is commitment to belief situated within, or outside, Jungian theory?

The theoretical underpinnings of commitment to belief originated from Jungian concepts. However, it is unclear whether commitment to belief is, indeed, Jungian in nature, or is now an indivisible concept. In other words, there are similarities between the two theories, particularly surrounding a striving for meaning, and a strength or commitment of belief. However, so far, this thesis has been unable to establish whether these are unconscious processes. Nevertheless, chapters four and five do suggest ways forward, in order to further investigate this question. For instance, Kline (1987) argues that projection tests could be the way

forward in ‘tapping’ the unconscious, and indeed, the tarot cards may need further investigation with more stringent measures. Also, findings using variations of the word association technique were certainly intriguing, again, suggesting further study. However, it may also be considered that Jungian theory has served its purpose, i.e. it has provided the initial theory to drive the construct of commitment to belief, and that the theory is now established in its own right. Nevertheless, whether commitment is a conscious or unconscious process is definitely worthy of further consideration.

## 2. Is commitment to belief related to personality?

Within chapter two, with a sample of 154 students, there was no relationship found between Eysenckian concepts of personality and commitment to belief, however, chapter five, with a smaller sample of 43 students, showed a relationship between Jung’s concept of extraversion and commitment to belief. Therefore, further exploration of personality is warranted through two avenues: (i) by replicating the findings in study five, but with a much larger sample, and (ii) by using other measures of personality, perhaps the more recent Eysenck Personality Profiler (Eysenck, Wilson & Jackson, 2000) that measures 7 different aspects of extraversion (activity, sociability, assertiveness, expressiveness, ambition, dogmatic, aggression) or the 5-factor model (e.g. Costa & McCrae, 1986), where neuroticism and extraversion, openness, agreeableness, and conscientiousness are measured. These aspects certainly seem to be better suited to findings now apparent in the commitment to belief hypothesis.

## 3. Can Ellis’s model of ABC help conceptualise the mechanisms of commitment to belief?

Chapter seven began to explore the relationships between commitment to belief, and Ellis’s model of ABC, in order to identify whether this model could provide a further understanding to the relationship between commitment to belief and psychological well-being. In other words, a stressful life event (an activating

experience: A) would be related to commitment to belief (belief: B), which would then be related to better psychological well-being (consequence: C). Findings showed that most of the sample used commitment to belief to help them with their stressful life events; however, this was only found to alleviate social dysfunction. Also, a multiple regression showed that it is commitment to belief in its original format that actually accounted for unique variance with social dysfunction. This suggests that the item of scored beliefs used to deal with life events may not be a real construct, and that simply using the commitment to belief scale in its original format would have identified this finding. Thus, this casts doubt on the usefulness of the theory put forward in this chapter, or perhaps the method used to consider the theory. Therefore, it is strongly recommended, that future research needs to address this by replicating the current findings.

Nevertheless, it is important to remember that 80% of the total sample did report that they used their beliefs to help them deal with stressful situations. Thus, the issue may be one of methodology, i.e. it is assumed that effects on psychological well-being are of long-term benefit as it is assumed that people use these beliefs again and again. However, when measuring belief's effects on a specific event (i.e. stressful), it may need to be carried out much nearer to the event itself in order to establish the beliefs direct effect. Therefore, a much smaller time frame than 3 months should be considered in future research to tighten up the methodology used. Other future methodology may also consider using other models, besides Ellis, to help explain commitment to belief's role in aiding individuals to deal with stressful situations.

#### 4. Is commitment to belief better placed within optimism?

Chapters five and eight demonstrated a relationship between commitment to belief and optimism. This is indeed a finding that demands further study. Indeed, chapter eight outlined a number of models to explain the dynamics of commitment to belief. Therefore, in model 1, a commitment to belief gives an individual better optimism, and spurs individuals to use challenge appraisals,

which in turn, reduces somatic symptoms. In model 2, commitment to belief gives an individual better optimism, which then reduces anxiety. In model 3, commitment to belief gives an individual better optimism, and reduces denial, which in turn, reduces depression (however, the path analysis does not suggest this is a good fit). Finally, in model 4, commitment to belief directly reduces social dysfunction, but also gives an individual better optimism, and spurs individuals to use challenge appraisals, which in turn, reduces social dysfunction.

Therefore, optimism is clearly important within the theory of commitment to belief. However, one issue arises here, it is not clear whether commitment to belief is simply measuring optimism, or it is indeed a separate and unique concept, which, as mentioned when defining Jung's overall theories, has an effect, and is affected by, optimism. For example, that a person who has deep commitment to belief gains optimism because of this, or that a person with an optimistic attitude to life spurs them to develop deep commitment to belief.

Another issue is the way optimism is conceptualised. Indeed, the Jungian description of optimism, i.e. a positive individual, with purpose in life, who strives for meaning, and takes on the chin whatever life throws at them in order to develop and grow, is useful, and fits nicely within the commitment to belief literature. However, other authors conceive optimism in other ways, sometimes as part of the coping literature, and sometimes as an underlying trait. Therefore, it is difficult to establish whether optimism supports Jungian theory, or indeed, does not. To elaborate, it looks Jungian, it smells Jungian, it tastes Jungian, but whether or not it is Jungian is another matter, and demands further research.

One final issue to address, here, belongs to the consideration of the models developed in chapter eight. Although these findings are indeed promising, such post hoc modelling is not usually recommended. Therefore, further research must be undertaken to replicate these models, before further research on optimism can take place.

### 5. Is commitment to belief applicable within a wider population?

A final issue is the consideration of commitment to belief within wider populations. So far, research has considered commitment to belief within the confined realms of student samples. Commitment to belief merits further consideration; (i) within wider general population samples, and (ii) within a wider age group, with particular emphasis on older generations in order to investigate, further, mechanisms of individuation. It may also be worth considering commitment to belief within life-span psychology, and measure beliefs over long periods of time.

#### *A note about the research carried out in this thesis*

Finally, it is worth noting that, with the benefit of hindsight, there are some studies within this thesis that could have been addressed, or approached, differently. These are considered, however, to have been part of the learning process of this thesis, and the development of the researcher. These studies have already been addressed in this chapter, and suggestions made as to how they could be improved upon. However, it is worth reiterating them here. Firstly, in chapter two a measure of Eysenck's personality dimensions was chosen, in order to investigate whether a relationship existed between personality and commitment to belief. However, later chapters informed the researcher that extraversion (via Jungian personality dimensions) did, in fact, correlate with belief; thus development of the thesis suggests that the big-five personality dimensions may be better suited. Secondly, chapter four attempted to investigate unconscious aspects of Jungian psychology, and although the theory behind the methodology used was sound, many other problems were apparent. However, the findings around the words used were promising, even suggesting that they were scales in their own right; a tightening up, and further exploration of this methodology is needed, and recommended. However, as always, attempting to measure the unconscious is full of pit-holes, and caution should always be taken. Finally, the problems with chapter seven (conceptualising belief through Ellis's model of

ABC) have been well documented already in this chapter, however, the researcher would strongly recommend re-visiting these findings, with much stronger methodology.

### **Final summary and comments**

In all, the thesis has presented and developed a reliable and valid measure of commitment to belief; it has suggested theoretical guidance for this theory through Jungian concepts of belief; it has been demonstrated that commitment to belief is not simply another way of measuring specific beliefs such as religion and spirituality; and it has presented alternative explanations of results through the use of cognitive variables. Contributions to the literature have been outlined through the usefulness of the Commitment to Belief scale; the ability to expand present literature using theoretical underpinnings of Jung, and the importance of positive outcomes on mental health, as well as establishing the variables that help explain this relationship. Thus, an individual who has strong commitment to belief engages in challenge appraisals, positively reinterprets stressful situations to gain growth, doesn't tend to use denial, and is more optimistic. Advice for future uses have been presented by considering an abridged version of the Commitment to Belief scale; considering applications for widening and understanding beliefs within other contexts and theories of belief; and uses of commitment to belief outside established theories of belief, with suggestions of occupational attitudes, and general attitudes affecting general health. Finally, unresolved issues have been addressed.

It is suggested, then, that the research in this thesis is extremely promising for informing research on the nature of belief, and has enabled the foundations for a much wider and applied research programme. In other words, this thesis presents the beginnings of research on commitment to belief, and not the end result.

A final comment, here, regards the theoretical guidance presented for commitment to belief through the guise of Jungian thought. Although findings create a figure that is very Jungian in nature, it cannot be said, here, that it is in fact Jungian, but rather reflects a Jungian idea, and incorporates modern coping styles to produce a much fuller picture.

In sum, this thesis builds constructively upon previous research, providing good theoretical guidance, and suggests avenues for future research.



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## **APPENDIX ONE**

### **The Commitment to Belief Scale**

## *Commitment to Beliefs Study*

This workbook is intended to investigate the structure of beliefs, in conjunction with many different psychological variables; such as whether we see the world as a fair and just place; whether we have control over our lives, etc.

The workbook has been designed to enable complete privacy on such a personal topic, and allows participants to work through the book without interference. However, you are encouraged to ask for help at any time, as you may find some of the material difficult to understand.

**I would like to take this opportunity to thank you for your co-operation in completing this workbook and taking part in this study.**

Before starting could you answer the following questions.

SEX: Male                  Female

AGE: \_\_\_\_\_

### **Confidentiality**

**The first section of the questionnaire asks you to reveal/explore your feelings and beliefs. We recognise that this material (page 2 - steps 1 and 2) is extremely personal, therefore you are asked to write these down on separate sheets so as you can take them away with you on completion of the workbook. It is only your responses to step 3 that will be recorded in the workbook.**

Thankyou for your help. When you have finished the workbook please return it to the researcher.

### Step 1

For this step, you will be working with the statements attached on the **BLUE** separate sheet. Please answer each question in numerical order, writing them on the answer sheet provided (coloured **PINK**). Do not think too hard about these questions, write down the first thing that comes into your head (this separate pink sheet is personal to you and can be taken away with you at the end, if you wish).

### Step 2

For this step you will need your answers from **step 1** (**PINK** sheet) and the **YELLOW** coloured sheet.

Using the answers you have from **step 1** above (written on the **PINK** sheet), please turn to the number sequences (each showing 3 numbers) on the separate **YELLOW** sheet. These numbers correspond to different sequences of your answers that you wrote down on the **PINK** sheet.

- Using only the first sequence of numbers, look at each of your 3 answers that correspond to the number sequence (so for example, if your first sequence is 3, 5, 7, you will be looking at your answers to questions 3, 5, and 7 only).
- Now think about these 3 answers. For you, 1 answer will be different from the other 2 in someway. Turn to page 4 and write this difference down in the '**Construct:**' part of the **Number sequence 1** (don't get too worried about this – just put down the first thing that springs to mind – if you cannot think of one word to describe the difference, then use a sentence that describes it).
- Then, using the construct you have written down, write down next to it what, to you, is its opposite meaning (again, if you cannot think of one word to describe the difference, then use a sentence that describes it).
- Then mark the construct that is most desirable to you. If you have problems with this use the example overleaf.

*Example*

If the sequence of numbers were 1, 2, 3. My answers may have been

1. Open mindedness
2. Being in control
3. Perfection.

For me 2 and 3 are '**Rigid**', and number 1 is '**Flexible**'. So, I would decide that different construct is '**Flexible**' and decide its opposite is '**Rigid**'.

I would then write in the workbook

**Example Sequence**

Construct Flexible

It's Opposite Rigid

Desirable construct Flexible

**Step 3**

Next, using only the 'desirable construct' from **step 2** (that you have already written down on page 4), complete the scales for '**number sequence 1**' only.

Now can you please indicate how important this 'desirable construct' is to you in three different ways:

- First, you have to indicate how important the 'desirable construct' is by rating how 'personal' it is to you.
- Second, you have to indicate how important the 'desirable construct' is, by rating it in terms of whether it is something that will persist across time/be present in the future.
- Third, you have to indicate how important the 'desirable construct' is, by rating it in terms of whether the construct is something that affects many aspects of your life.

For each of these ratings, circle one of the following numbers; 1=Strongly Disagree, 2=Disagree, 3=Slightly disagree, 4=Not certain, 5=Slightly agree, 6=Agree, 7=Strongly agree. (An example is given below).

*Example of response format*

The construct is very personal to me	1	2	3	4	5	6	7
In the future, the construct is something I will continue to believe in	1	2	3	4	5	6	7
This construct is applicable to many aspects of my life	1	2	3	4	5	6	7

**Now**, complete **steps 2** and **3** for each of the remaining 6 number sequences given. Completing each scale, which corresponds to each sequence.



## Number Sequences

### **Number Sequence 1**

Construct \_\_\_\_\_ It's Opposite \_\_\_\_\_

Desirable construct \_\_\_\_\_

1=Strongly disagree, 2=Disagree, 3=Slightly disagree, 4=Not certain, 5=Slightly agree, 6=Agree, 7=Strongly agree.

The construct is very personal to me	1	2	3	4	5	6	7
In the future, the construct is something I will continue to believe in	1	2	3	4	5	6	7
This construct is applicable to many aspects of my life	1	2	3	4	5	6	7

### **Number Sequence 2**

Construct \_\_\_\_\_ It's Opposite \_\_\_\_\_

Desirable construct \_\_\_\_\_

1=Strongly disagree, 2=Disagree, 3=Slightly disagree, 4=Not certain, 5=Slightly agree, 6=Agree, 7=Strongly agree.

The construct is very personal to me	1	2	3	4	5	6	7
In the future, the construct is something I will continue to believe in	1	2	3	4	5	6	7
This construct is applicable to many aspects of my life	1	2	3	4	5	6	7

### **Number Sequence 3**

Construct \_\_\_\_\_ It's Opposite \_\_\_\_\_

Desirable construct \_\_\_\_\_

1=Strongly disagree, 2=Disagree, 3=Slightly disagree, 4=Not certain, 5=Slightly agree, 6=Agree, 7=Strongly agree.

The construct is very personal to me	1	2	3	4	5	6	7
In the future, the construct is something I will continue to believe in	1	2	3	4	5	6	7
This construct is applicable to many aspects of my life	1	2	3	4	5	6	7

### **Number Sequence 4**

1=Strongly disagree, 2=Disagree, 3=Slightly disagree, 4=Not certain, 5=Slightly agree, 6=Agree, 7=Strongly agree.

The construct is very personal to me	1	2	3	4	5	6	7
In the future, the construct is something I will continue to believe in	1	2	3	4	5	6	7
This construct is applicable to many aspects of my life	1	2	3	4	5	6	7

**Number Sequence 5**

1=Strongly disagree, 2=Disagree, 3=Slightly disagree, 4=Not certain, 5=Slightly agree, 6=Agree, 7=Strongly agree.

The construct is very personal to me	1	2	3	4	5	6	7
In the future, the construct is something I will continue to believe in	1	2	3	4	5	6	7
This construct is applicable to many aspects of my life	1	2	3	4	5	6	7

**Number Sequence 6**

1=Strongly disagree, 2=Disagree, 3=Slightly disagree, 4=Not certain, 5=Slightly agree, 6=Agree, 7=Strongly agree.

The construct is very personal to me	1	2	3	4	5	6	7
In the future, the construct is something I will continue to believe in	1	2	3	4	5	6	7
This construct is applicable to many aspects of my life	1	2	3	4	5	6	7

**Number Sequence 7**

1=Strongly disagree, 2=Disagree, 3=Slightly disagree, 4=Not certain, 5=Slightly agree, 6=Agree, 7=Strongly agree.

The construct is very personal to me	1	2	3	4	5	6	7
In the future, the construct is something I will continue to believe in	1	2	3	4	5	6	7
This construct is applicable to many aspects of my life	1	2	3	4	5	6	7

## **APPENDIX TWO**

Rating scale for constructs

## Ratings for Constructs

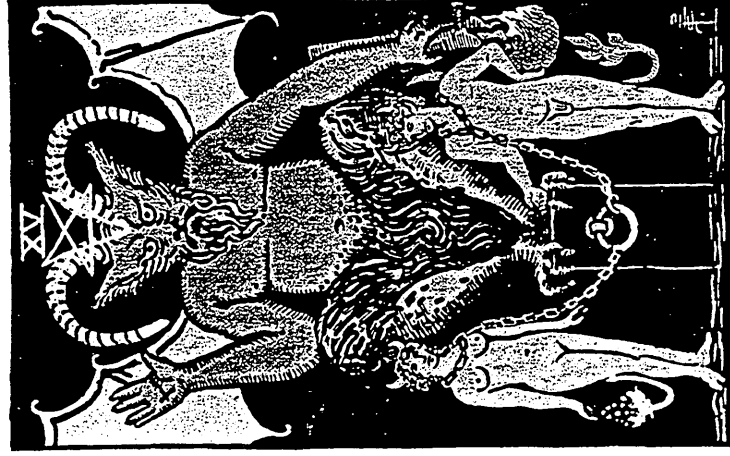
For each questionnaire, consider each of the constructs generated by that participant.  
On the table below, please mark

1. The questionnaire number (this will help to identify this person for later analysis)
2. Consider whether the participant has generated any constructs that, in your opinion, can be considered as either religious in nature, an irrational belief, conservative in nature, or a belief in luck, and place a  $\checkmark$  or X for each one you identify.
3. Write down (in the final column) how many of these constructs (within a particular category) you believe are generated.

Thank you for your participation

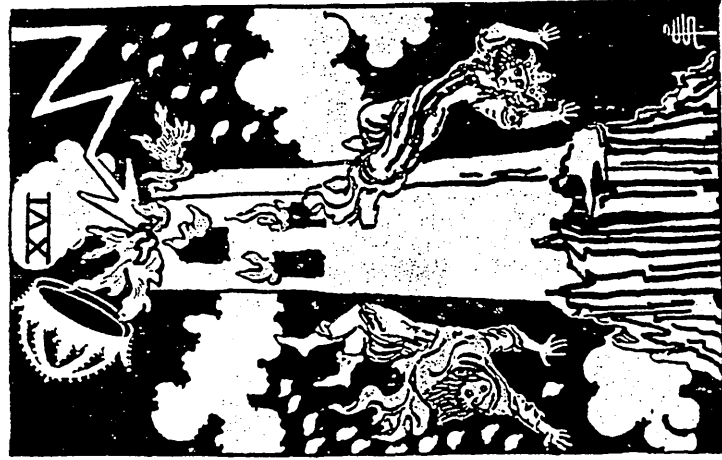
Questionnaire Number	Constructs (see attached sheet for descriptions)	Put a $\checkmark$ or a X for constructs used for this person	How many constructs were there in that category?
	Religion		
	Irrational Belief		
	Conservatism		
	Luck		

Please tick the appropriate box which corresponds to  
your feelings about the picture



- |                                 |                                     |
|---------------------------------|-------------------------------------|
| I strongly like this picture    | <input type="checkbox"/>            |
| I like this picture             | <input type="checkbox"/>            |
| I'm not certain                 | <input type="checkbox"/>            |
| I dislike this picture          | <input checked="" type="checkbox"/> |
| I strongly dislike this picture | <input type="checkbox"/>            |

Please tick the appropriate box which corresponds to  
your feelings about the picture

☐

I strongly like this picture

☐

I like this picture

☐

I'm not certain

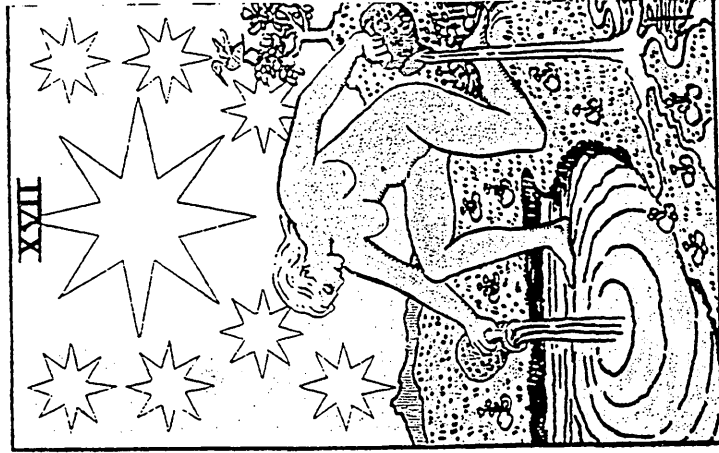
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I dislike this picture

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I strongly dislike this picture

Please tick the appropriate box which corresponds to  
your feelings about the picture

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I strongly like this picture

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I like this picture

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I'm not certain

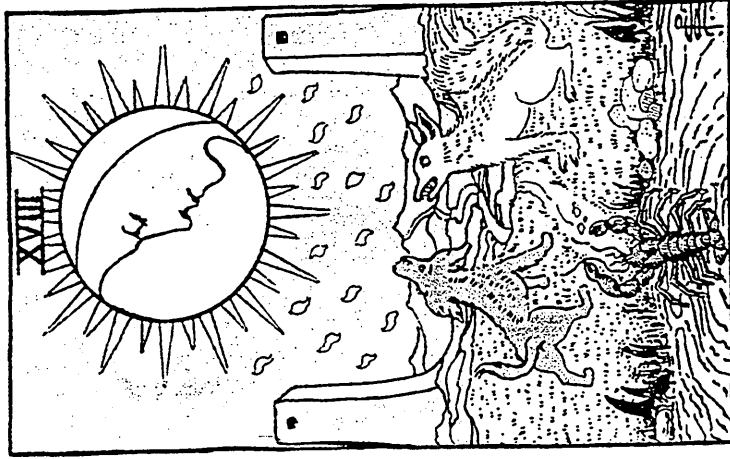
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I dislike this picture

☐

I strongly dislike this picture

Please tick the appropriate box which corresponds to  
your feelings about the picture

☐

I strongly like this picture

☐

I like this picture

☐

I'm not certain

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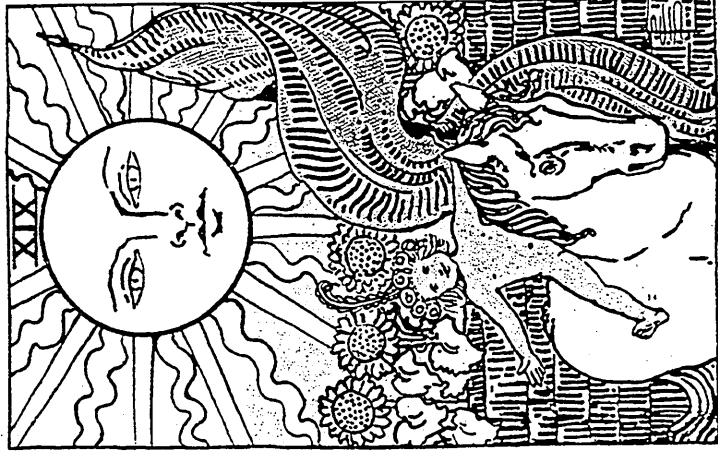
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## **APPENDIX FOUR**

Published and in press papers relevant to the PhD

## RELATIONSHIP BETWEEN BELIEF IN GOOD LUCK AND GENERAL HEALTH<sup>1</sup>

LIZA DAY, JOHN MALTBY, AND ANN MACASKILL

*School of Health and Community Studies  
Sheffield Hallam University, England*

**Summary.**—62 undergraduate university students were administered the 12-item Belief in Good Luck Scale of Darke and Freedman and the General Health Questionnaire of Goldberg and Williams. Scores on belief in good luck showed a significant correlation of  $-.29$  with anxiety and  $-.35$  with depression but correlations were not significant for somatic symptoms ( $.15$ ) and social dysfunction ( $.15$ ).

Within the literature, there are traditionally two psychological explanations of luck. The first is luck as an external, unstable factor within social events or achievement outcomes (Rotter, 1955, 1966; Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1972). Here, luck is perceived as uncontrollable and having little influence on future expectations as well as a rational belief. Thus, luck is thought to have no influence on the psychological well being and health of the individual. The second explanation is luck as a personal attribute, as an internal and stable factor (Darke & Freedman, 1997b). In this explanation luck is often seen as an irrational belief, typically considered maladaptive (Ellis, 1971, 1973) and is thought to have a detrimental effect on individual's psychological well-being and health (Rotter, 1966; Seligman, 1975).

Some researchers, however, have begun to reevaluate the latter assumption that beliefs surrounding luck are necessarily maladaptive and instead have speculated that they may be adaptive as these positive illusions can lead to feelings of confidence, control, and optimism (Taylor & Brown, 1988; Darke & Freedman, 1997a). As part of this reevaluation Darke and Freedman (1997a) developed a 12-item Belief in Good Luck Scale to measure such beliefs and assess their implications for perceptions of control. They reported that items on the scale showed a good internal reliability ( $\alpha = .85$ ) and significantly correlated with locus of control scores but not with scores on self-esteem, desire for control, and achievement motivation. These findings provided both convergent and discriminant validity for the scale. Despite the development of the scale, there has been no examination of whether belief in good luck is adaptive in psychological well being and health so an examination between the relationship in belief in good luck, psychological well being, and health is required.

Undergraduate students (14 men, 38 women, and 10 undisclosed) of ages 18 to 44 years ( $M = 21.4$ ,  $SD = 5.24$ ) were administered the 12-item Belief in Good Luck scale (Darke & Freedman, 1997a) and the General Health Questionnaire (Goldberg & Williams, 1991). Items such as 'I consider myself to be a lucky person' were scored on a 6-point scale anchored by 'strongly disagree' and 'strongly agree'. The General Health Questionnaire contains four subscales that measure aspects of general health, Severe Depression, Anxiety, Somatic Symptoms, and Social Dysfunction.

A significant negative Pearson product-moment correlation coefficient obtained for higher scores on the Belief in Good Luck scale and lower scores on the Severe Depression ( $r = -.35$ ,

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<sup>1</sup>Please address correspondence to Liza Day, Centre for Health and Social Care Research, School of Health and Community Studies, Sheffield Hallam University, Sheffield, England, S10 2BP or e-mail (L.Day@shu.ac.uk).

$p < .01$ ) and Anxiety ( $r = -.29, p < .05$ ) measures of the General Health Questionnaire. No significant relationship was found between scores on Belief in Good Luck and Somatic Symptoms ( $r = -.04$ , ns) and Social Dysfunction ( $r = .15$ , ns).

This suggests that belief in good luck is associated with less depression and anxiety. Further, belief in good luck may indicate better psychological well being and is not maladaptive as is traditionally accepted for irrational beliefs. Together with the research by Darke and Freedman (1997a), we suggest that believing in good luck may be an adaptive behaviour. For instance, belief in good luck may provide an important means of coping with the unforeseen events that happen by allowing individuals to remain optimistic when it is impossible to exercise direct control over the circumstances. It must be remembered, however, that the General Health Questionnaire is a self-report measure and, although the findings show that subjects who believe in good luck are more optimistic, there is also a possibility that they may tend to exaggerate how little depressed and anxious they are. Researchers may examine the relationship between these concepts. Notwithstanding these speculations, the findings suggest reconsidering whether beliefs in luck are necessarily maladaptive.

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Belief in good luck and psychological well-being:  
The mediating role of optimism and irrational beliefs.

**Journal of Psychology, in press**

Liza Day

Sheffield Hallam University, Sheffield, England.

and

John Maltby

University of Leicester, England.

Short Title: Belief in Good Luck and Psychological well-being

Key Words: Good Luck, Depression, Anxiety, Optimism, Irrational Beliefs.

Please address correspondence to Liza Day, School of Social Science and Law,  
Collegiate Crescent Campus, Sheffield Hallam University, Sheffield, S10 2BP,  
England.

## Abstract

*The relationship between belief in good luck, depression, and anxiety was examined within the context of a number of cognitive and personality variables used to explain depression and anxiety. Undergraduate students (46 men, 98 women) were administered measures of belief in good luck, depression, anxiety, optimism, neuroticism, attribution style, self-esteem and irrational beliefs. Belief in good luck was found to be significantly related to optimism and irrational beliefs. A number of models were tested for good-fit examining whether irrational beliefs or optimism mediated the relationship between belief in good luck and depression and anxiety, a number of theoretical models were tested. Findings suggest that the finding of a negative relationship between belief in good luck and both depression and anxiety is best considered by the theory that belief in good luck engenders optimistic traits and a low level of irrational beliefs.*

Within the literature, there are traditionally two psychological explanations of belief in luck. The first explanation views luck as an external, unstable factor within social events (Rotter, 1955; Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1972). Here, belief in luck is perceived as uncontrollable, having little influence on future expectations (Darke & Freedman, 1997a). Within this perspective, belief in luck is thought to have no influence on the psychological well-being of the individual. A second explanation of luck, views belief in luck as a personal attribute, and as an internal and stable factor (Darke & Freedman, 1997a). In this perspective, luck is an irrational belief, considered to be maladaptive (Ellis, 1971; Ellis, 1973) and is thought to have a detrimental effect on the individual's psychological well-being (Rotter, 1966; Seligman, 1975).

However, some research has begun to re-evaluate the second explanation of belief in luck as necessarily maladaptive, and has speculated that a belief in good luck may be adaptive, and that positive illusions surrounding luck can lead to feelings of confidence, control and optimism (Darke & Freedman, 1997a; 1997b; Taylor & Brown, 1988). As part of this re-evaluation, Darke & Freedman (1997b) developed a 12-item Belief in Good Luck scale to measure good luck beliefs and determine their implication for perception of control. The reliability, concurrent and discriminant validity of this scale is supported by the scale's satisfactory internal reliability ( $\alpha=.85$ ) and significant correlation with locus of control, but not self-esteem, desire for control and achievement motivation.

To extend the view that belief in good luck is adaptive, Day and Maltby (1999) examined the relationship between belief in good luck and depression and anxiety. Consistent with recent theoretical speculations (Darke & Freedman, 1997a; 1997b), Day and Maltby found belief in good luck to share a significant negative association with depression ( $r=-.35$ ,  $p<.01$ ) and anxiety ( $r=-.29$ ,  $p<.05$ ). An examination of Day and Maltby's findings, within cognitive and personality explanations of depression and anxiety, would be prudent. If the relationship between belief in good luck and depression and anxiety could be explained within



existing theories of depression and anxiety, then this would suggest that belief in good luck itself may not explain unique variance. Placing belief in good luck within other theories of depression also would point to important mechanisms that are crucial to the relationship between belief in good luck and psychological well-being.

There are a number of theories of depression and anxiety that might be useful. First is the role of optimism. Scheier and Carver (1985) suggest that optimism has a beneficial effect on psychological well-being. This view is supported by optimism measures being negatively correlated with depressive symptoms (Carver & Gaines, 1987; Fibel & Hale, 1978; Scheier & Carver, 1985) and anxiety (Harju & Bolen, 1998; Robinson-Whelen, Kim, MacCallum, & Kiecolt-Glaser, 1997). Second is the presence of neuroticism in depression and anxiety. Eysenck and Eysenck (1975) describe the neurotic as anxious, moody and frequently depressed. Not only does anxiety appear as a feature in descriptions of neuroticism (Eysenck & Eysenck, 1975; Matthews, Saklofske, Costa, Deary, & Zeidner, 1998), but neuroticism is associated with a less pleasant mood state, a dispositional factor for depression, and correlated with depressive symptoms (Bagby, Parker, & Joffe, 1993; Costa & McCrae, 1980; Larsen, 1992; Maltby, Lewis, & Hill, 1998; Saklofske, Kelly, & Janzen, 1995). Third is the relationship between attribution style and depression and anxiety. Research suggests that individuals who make internal, stable and global attributions for negative events, and who give external, unstable and specific explanations for positive events, score higher on measures of depression (Peterson & Villanova, 1988; Seligman, Abramson, Semmel, & von Baeyer, 1979; Sweeney, Anderson, & Bailey, 1986) and anxiety (Feiring, Taska, & Lewis, 1999; Franck, Blount, & Brown, 1997). Fourth, there is evidence that self-esteem shares a negative correlation with depression measures (Brewin & Furnham, 1986; Flett, Blankstein, Occhiuto, & Koledin, 1994; Tennen & Herzberger, 1987; Tennen, Herzberger, & Nelson, 1987) and anxiety (Ehnholt, Salkovskis, & Rimes, 1999; Lee & Robbins, 1998; Ralph & Mineka, 1998). Finally, belief in good luck is thought to represent irrational belief and that irrational beliefs share a positive association with depression (Marcotte, 1996; McDermut, Haaga, & Bilek, 1997; Solomon, Haaga, Brody, Friedman, & Kirk, 1998) and anxiety (Chang & DZurilla, 1996; Moller & deBeer, 1998; Watson, Sherbak, & Morris, 1998).

Wt present, there is no information that examines whether the relationship between belief in good luck and depression and anxiety can be seen within the context, or outside the consideration, of other theories of depression and anxiety. The aim of the present study was to examine the relationship between belief in good luck, depression and anxiety within the context of measures of optimism, neuroticism, attribution style, self-esteem and irrational beliefs.

#### Method

##### Sample.

Respondents were 144 (46 men, 98 women) undergraduate full-time students at Sheffield Hallam University aged between 18 and 51 years of age

(Mean=23.22, SD=2.5). All students were full-time. The scales were administered through classes and were completed by students individually.

#### Questionnaires.

All respondents completed:

1. The Belief in Good Luck Scale (Darke & Freedman, 1997b) that comprises 12 items (e.g. 'I consider myself to be a lucky person') and responses are scored on a 6-point scale anchored by 'strongly disagree' and 'strongly agree'. Higher scores on this scale indicate a higher level of belief in good luck.
2. the Depression and Anxiety subscales of the General Health Questionnaire 28 (Goldberg & Williams, 1991) that comprise 7-item measures of depressive and anxiety symptoms. Responses are scored on a 4-point scale ranging from (0) Better than usual, (1) Same as Usual, (2) Worse than Usual, (3) Much Worse than usual. Higher scores on each of these subscales indicate a higher level of depression and anxiety.
3. The Revised Life Orientation Test (Scheier, Carver, & Bridges, 1994) which is a 6-item measure (with 4 additional items used as fillers) that assesses dispositional optimism. Responses are scored on a 5-point scale anchored by 'strongly disagree' and 'strongly agree'; with higher scores on this scale indicate a higher level of optimism.
4. The Neuroticism scale from the Abbreviated form of the Revised Eysenck Personality Questionnaire (Francis, Brown, & Philipchalk, 1992) which comprises 6-items that measure aspects of anxious, worrying and moody personality traits. Responses to items are scored on a 'Yes' – 'No' scale, with higher scores on this scale indicating a higher level of neuroticism.
5. The extended version of the Attribution Style Questionnaire (Peterson & Villanova, 1988) which subsumes three subscales to measure internal versus external, stable versus unstable, and global versus specific attributions, with higher scores on each of the subscales indicating internal, stable and global attributions respectively.
6. The 12-item general self-esteem sub-scale of the Self-Description Questionnaire III (Marsh, 1990) that is modified from the original Rosenberg self-esteem scale (Rosenberg, 1965). Responses are scored on a 5-point scale anchored by 'strongly disagree' and 'strongly agree', with higher scores on the scale indicating a higher level of self-esteem.
7. The 11-item Irrational Beliefs Survey (Watson, Vassar, Plemel, Herder, & Manifold, 1990) that is a scale derived from a previous well-used measure of irrational beliefs (MacDonald & Games, 1972), but uses simplified language to measure irrational beliefs. Responses to items on the Irrational Beliefs Survey are scored on a five-point response format (1=Strongly disagree, through to 5=Strongly Agree), with higher scores on this scale indicating a higher level of

irrational beliefs. Though reports on this measure of irrational beliefs are limited, available evidence suggests the scale represents one factor among non-clinical samples (Mahoney, 1997; Maltby & Day, 2001).

## Results

Table one shows the mean scores, by sex, and alpha co-efficients for all the scales (Cronbach, 1951). No significant differences were found between men and women for scores for each of the variables. The alpha co-efficients for the scales are above .7 suggesting satisfactory internal reliability (Kline, 1986).

- Insert Table One about here -

Table Two shows the Pearson product moment correlation coefficients computed between all the measures. The table shows that the depression measure, from the General Health Questionnaire, shares a significant positive correlation with anxiety, irrational beliefs, neuroticism, and a significant negative correlation with belief in good luck, internal, stable, and global attributions, self-esteem, and optimism. Further, the table also shows that the anxiety measure from the General Health Questionnaire shares a significant positive correlation with depression, irrational beliefs, neuroticism, and a significant negative correlation with belief in good luck, internal, stable, and global attributions, self-esteem, and optimism. In addition, a number of significant correlations occurred between all the variables thought to be associated with depression and anxiety.

- Insert Table Two about here -

The significant correlations between belief in good luck, optimism and irrational beliefs, suggest optimism and irrational beliefs may be variables that are central to relationship between belief in good luck and psychological well-being. To test this idea a number of models were hypothesised. Figure 1 shows the hypothesised models.

- Insert Figure 1 about here -

For each of these models; depression and anxiety are treated as separate dependent variables. The first two models suggests that optimism (model 1) and irrational beliefs (model) separately mediates the relationship between belief in good luck and both the measures of psychological well-being. The third model suggests irrational beliefs and optimism together mediates the relationship between belief in good luck and both measures of psychological well-being. The fourth model suggests irrational beliefs and optimism together mediates the relationship between belief in good luck, but do not account for all the variance, and both measures of psychological well-being.

The models were analysed using PRELIS and LISREL 8 (Joreskog & Sorbom, 1999). The following LISREL analysis was assessed on the co-variance matrices. PRELIS analysis was used to assess the univariate and multivariate

normality of the measured variables. Kurtosis statistics to assess univariate and multivariate normality were all non-significant. The model parameters were estimated using LISREL 8. Co-variances were all found to be less than 1 and none of the negative error variances were found to be approaching zero, suggesting the parameters were free within the subsequent analysis.

Table 4 shows the goodness of fit statistics reported for each of the models. Using a cutoff criteria of .95 for the ML based statistics (TLI, IFI, CFI), .08 for SRMR and .06 for RMSEA (Hu & Bentler, 1999), the goodness of fit statistics suggest that model three provides a relatively satisfactory fit of the data for both depression and anxiety as indicators of psychological well-being.

### Discussion

The aim of the present study was to examine the relationship between belief in good luck and psychological well being in the context of a number of cognitive and personality variables.

Pearson product-moment correlation coefficients suggest that, among the present sample, higher depressive and anxiety symptoms are significantly positively correlated with each other, neuroticism and irrational beliefs are significantly negatively correlated with internal, stable and global attributions (a depressive attributional style), self-esteem and optimism. These findings are consistent with previous research (for example, Carver & Gaines, 1987; Darke & Freedman, 1997a; Darke & Freedman, 1997b; Day & Maltby, 1999; Feiring et al., 1999; Flett et al., 1994; Harju & Bolen, 1998; Lee & Robbins, 1998; Maltby et al., 1998; McDermut et al., 1997; Peterson & Villanova, 1988). In terms of the relationship between belief in good luck and other variables, belief in good luck shares a significant positive relationship with optimism, and a significant negative relationship with depression, anxiety and irrational beliefs.

The testing of hypothesised models for goodness-of-fit suggests that optimism and irrational beliefs are important components in the relationship between belief in good luck and depression and anxiety. In regard to optimism, this finding is consistent in supporting the view that belief in good luck produces a positive illusion that leads to feelings of confidence, control and optimism (Darke & Freedman, 1997a; 1997b; Taylor & Brown, 1988). The present findings suggest that the belief in good luck engenders feelings of optimism, which in turn, leads to better psychological well-being (Carver & Gaines, 1987; Fibel & Hale, 1978; Scheier & Carver, 1985).

In regard to irrational beliefs, explanation of the present findings is a little more difficult as there is a significant negative relationship between belief in good luck (an irrational belief) and irrational beliefs. However the present finding suggests that belief in good luck represents a low level of irrational beliefs. One explanation centres on the fact that irrational beliefs measures (MacDonald & Games, 1972; Watson et al., 1990) have been developed within Ellis' theoretical and applied framework that view irrational beliefs as mal-adaptive. Therefore the

Irrational Beliefs Survey may not measure all aspects of irrational beliefs and there is a distinction between irrational beliefs that lead to negative outcomes in terms of psychological well-being, and irrational beliefs that lead to positive outcomes in psychological well-being (Darke & Freedman, 1997a; 1997b). In terms of theoretical relevance the present findings suggest that belief in good luck shares a significant negative relationship with irrational beliefs, and those individuals who believe in good luck reject the types of beliefs usually associated with irrational beliefs which in turn leads to better psychological well-being.

Together, these findings lend support to authors who have begun to challenge the traditional view that all irrational beliefs are maladaptive (Darke & Freedman, 1997a; 1997b; Taylor & Brown, 1988). Such a view needs further investigation, and future research would need to specifically examine other 'sets' of irrational beliefs that may have these positive outcomes. However, the nature of the sample may limit the extent to which these findings can be generalized. Future research is needed to examine whether the correlates of belief in good luck among students can be replicated among individuals sampled from a wider population group. This may be important as there may be particular variables associated with the present sample (younger persons having a more positive outlook on life, university students being more positive about their careers) that may provide an important context to the present findings.

In summary, the present findings suggest that belief in good luck is associated with better psychological well-being as a result of optimism and the rejection of mal-adaptive irrational beliefs. Therefore the present findings do support the sentiments of Darke and Freedman (1997a; 1997b) who suggest that finer distinctions need to be made when considering whether a particular set of irrational beliefs can be considered as wholly mal-adaptive.

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## Tables

Table One: Mean Scores (Standard Deviations) by sex, and alpha coefficients for total sample, for all the scales.

Scale	$\alpha$	Men (N=46)	Women (N=98)	t
1. Belief in Good Luck	.90	52.59 (16.4)	51.04 (14.8)	.57
2. Depression	.77	01.37 (01.9)	00.90 (01.6)	1.57
3. Anxiety	.81	01.72 (01.8)	01.89 (02.0)	-.50
4. Internal Attributions	.75	54.53 (13.0)	52.23 (11.0)	.97
5. Stable Attributions	.78	54.28 (10.7)	54.96 (09.4)	-.35
6. Global Attributions	.79	55.56 (10.7)	26.20 (09.3)	-.33
7. Irrational Beliefs	.83	28.76 (08.7)	29.32 (07.0)	-.41
8. Self-Esteem	.90	28.15 (08.2)	30.31 (07.0)	-1.82
9. Neuroticism	.83	04.13 (05.1)	03.47 (02.3)	1.07
10 Optimism	.89	19.53 (05.6)	20.05 (04.4)	-.59

\*  $p < .05$ ; \*\*  $p < .01$  (two-tailed)

Tables

Table Two: Pearson product moment correlation coefficients between all the variables.

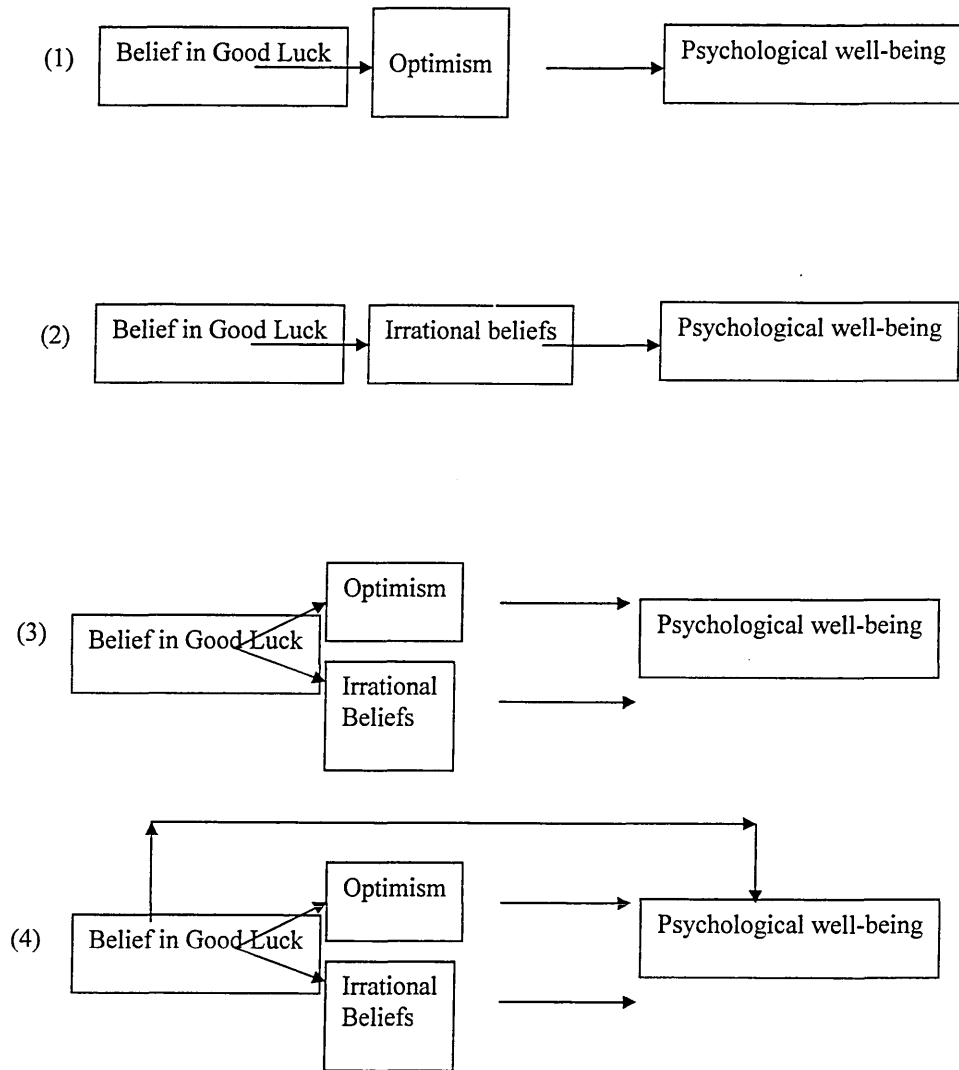
	1	2	3	4	5	6	7	8	9
1. Belief in Good Luck	-								
2. Depression	-.344**	-							
3. Anxiety	-.415**	.464**	-						
4. Internal Attributions	.147	-.241**	-.314**	-					
5. Stable Attributions	.121	-.275**	-.280**	.562**	-				
6. Global Attributions	.170	-.299**	-.307**	.536**	.732**	-			
7. Irrational Beliefs	-.315**	.186*	.271**	-.112	-.065	-.112	-		
8. Self-Esteem	.158	-.489**	-.234**	.253**	.362**	.322**	-.103	-	
9. Neuroticism	-.137	.188*	.283**	-.020	-.025	-.050	.125	-.093	-
10 Optimism	.399**	-.514**	-.489**	.441**	.416**	.392**	-.249**	.526**	-.211*

\*  $p < .05$ ;  $p < .01$  (2-tailed).

Table Three: Goodness of Fit Indexes for the four models.

	$\chi^2$	SRMR	RMSEA	GFI	AGFI	NFI	TLI	CFI	IFI
	(NNFI) (BL89)								
Model 1 – Anxiety (Irrational Beliefs)	8.98	.07	.15	.97	.86	.89	.73	.91	.91
Model 1 – Depression (Irrational Beliefs)	9.15	.07	.15	.97	.86	.88	.70	.90	.91
Model 2 – Anxiety (Optimism)	2.69	.04	.10	.99	.93	.96	.92	.97	.97
Model 2 – Depression (Optimism)	3.85	.05	.13	.98	.90	.94	.86	.95	.95
Model 3 – Anxiety	0.68	.01	.01	.99	.99	.96	.99	.99	.99
Model 3 – Depression	0.78	.01	.01	.99	.98	.93	.99	.99	.99
Model 4 – Anxiety	5.55	.06	.17	.98	.83	.93	.65	.94	.94
Model 4 – Depression	5.55	.06	.17	.98	.83	.93	.62	.94	.94

Figure 1: Models tested for good fit





# Can Kinderman and Bentalls' suggestions for a personal and situational attributions questionnaire be used to examine all aspects of attributional style?

L. Day\*, J. Maltby

*Psychology Subject Group and Centre for Health and Social Care Research, School of Health and Community Studies, Sheffield Hallam University, Sheffield S10 2BP, UK*

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## Abstract

The aim of the present study was to apply suggestions made by Kinderman and Bentall (1996) to the accurate measurement of attributional style. Three hundred undergraduate students (140 males, 160 females) completed the original, and an amended version of the Attribution Style Questionnaire, two measures of depression, and a number of 1-item measures of Attribution Style. The findings suggest that the amended version of the Attribution Style Questionnaire shows improved reliability and correlational statistics with depression and with 1-item measure of constructs, over the original version of the Attribution Style Questionnaire. Together, these findings suggest that separating out all aspects of attribution style could contribute to clearer measurement of attribution style. © 2000 Elsevier Science Ltd. All rights reserved.

**Keywords:** Attribution style; Depression; Questionnaire; Internal; Stable; Global

## 1. Introduction

Attribution style is a cognitive personality variable that can be defined as the way individuals interpret good and bad events (Abramson, Seligman & Teasdale, 1978; Peterson et al., 1982). In essence, interpretations of good and bad events reflect the use of internal (cause of events due to the individual) vs external (cause of events due to other people or

\* Corresponding author. Tel.: +44-114-2252543; fax: +44-114-2252430.

circumstances) attributions, stable (cause of events persistent over time) vs unstable (cause of events not persistent over time) attributions, and global (cause of events persistent over time evidence in a variety of situations) vs specific (cause of events specific to one situation) attributions (Peterson et al., 1982).

The use of attribution style has been used in a number of research contexts, however, its most influence has been in using a reformulated learned helplessness model to explain attribution style depression (Abramson et al., 1978). Generally, it is accepted that the use of internal, stable and global attributions to explain events (pessimistic attributional style) is related to higher scores on depression, and the use of external, unstable and stable attributions (positive attributional style) is associated with lower depression (Brewin, 1985; Peterson & Villanova, 1988; Sweeney, Anderson & Bailey, 1986; Maltby, Lewis & Hill, 1998).

One research issue that has recently developed is discussion surrounding the measurement of attribution style, with researchers often favouring its psychological importance over its psychometric properties (Rehm, 1988). Measurement of attribution style centres around individuals generating causes for a number of good (e.g. 'You get a raise' [item 12]) and bad (e.g. 'A friend comes to you with a problem and you don't try to help' [item 4]) events, and then rating the cause along a 7-point response format corresponding to internal, stable and global attributions. However, Peterson et al. (1982) reports low reliability statistics for the subscales of the questionnaire. However, from the original introduction of the Attribution Style Questionnaire among 130 undergraduate students (Peterson et al., 1982), the scale has been expanded (Peterson & Villanova, 1988) and there has been further discussion around further shortened versions (Whitley, 1991a,b; Peterson, 1991). Further, two recent papers make suggestions regarding how the measurement of attribution style might be improved (Kinderman & Bentall, 1996; Xenikou, Furnham & McCarrey, 1997).

Kinderman and Bentall (1996) have argued that there are limitations with the use of the Attributional Style Questionnaire. Further, Kinderman and Bentall argue that low internal reliability of six subscales (internality, stability and globalness for good and bad events) have led researchers to sum scores of internality, globalness and stability for positive and negative events. To specifically address issues with the measurement of internal-external attributions, Kinderman and Bentall introduced the internal, personal and situational attributions questionnaire among 88 undergraduates. In this version of an Attributional Style Questionnaire, the internal, external and circumstances aspects of attribution style are separated out to represent separate items. Within this, respondents are asked to select internal, external or circumstantial causes to events. Though this type of ipsative scoring method presents difficulties in obtaining reliability measures, validity was found for this new measure of attributional style with measures of depression and the original measure of attribution style.

These sentiments are echoed by Xenikou et al. (1997). Though the original Attribution Style Questionnaire (Peterson et al., 1982) sought to separate out good and bad events, many researchers produce composite overall scores for good and bad events (Xenikou et al., 1997). However, this is not the recommended practice with the use of Attributional Style Questionnaires (Peterson, 1991). This view is confirmed among UK samples by Xenikou et al. (1997) who found that factor analysis of attribution styles among 189 insurance staff suggests that attributions for good and bad events across internal-external, stable-unstable and global-specific do represent separate orthogonal dimensions.

At present the suggestions by Kinderman and Bentall (1996) and Xenikou et al. (1997) suggest that Attribution Style might be better measured by dividing up attribution style into separate constructs and while making a distinction between good and bad events. However, this research can be extended in two ways. First, both research papers do not use example scenarios from the Attribution Style Questionnaire, but scenarios tailored towards the specific contexts of present research (occupational and social situations). Therefore, at present, there is no information to whether researchers can use these suggested changes with the original attribution style questionnaire. Second, Kinderman and Bentalls' (1996) use of separating out the internal-external dimension was not extended to the stable-unstable and global-specific dimensions. Therefore, the aim of the present study was to consider the suggestions made by Kinderman and Bentall (1996) regarding the measurement of Attribution Style using the original version of the Attribution Style Questionnaire.

## 2. Method

### 2.1. Sample

Three hundred undergraduate students (140 males, 160 females) from Sheffield Hallam University aged between 18 and 53 years (Mean = 25.22, SD = 8.3) took part in the study.

### 2.2. Measures

Respondents were administered the following measures.

1. The Attributional Style Questionnaire (Peterson et al., 1982).
2. The Attribution Style Questionnaire, incorporating suggestions made by (Kinderman & Bentall, 1996). In this version, the completion instructions preceding the questionnaire were retained, but the opposing dimensions were separated out; (1) Totally due to me, (2) Totally due to others, (3) Totally due to other circumstances, (4) Always present, (5) Never present, (6) Just this situation and (7) All situations. Further a 7-point response format was retained with available responses ranging from (1) Strongly agree, (2) Agree, (3) Slightly agree, (4) Not certain, (5) Slightly disagree, (6) Disagree and (7) Strongly disagree.

The order of the presentation of the original and amended version of the Attribution Style Questionnaire was alternate for each questionnaire booklet administered so as to counteract any order effect. Scoring for each aspect of attribution style (internal, external, circumstantial, stable, unstable, global and specific) was divided between good and bad events.

Respondents were also administered the Beck Depression Inventory (Beck & Steer, 1993) and depression symptoms subscale from the General Health Questionnaire (Goldberg & Williams, 1991). As an additional concurrent validity check, a number of 1-item measures were written to represent the separate dimensions. These were:

- the causes of good things that happen to me are totally due to me;
- the causes of good things that happen to me are totally due to others;
- the causes of good things that happen to me are due to other circumstances;

- the causes of good things that happen to me are never present in my life;
- the causes of good things that happen to me are always present in my life;
- the causes of good things that happen to me, happen in just a few situations;
- the causes of good things that happen to me, happen in all situations;
- the causes of bad things that happen to me are totally due to me;
- the causes of bad things that happen to me are totally due to others;
- the causes of bad things that happen to me are due to other circumstances;
- the causes of bad things that happen to me are never present in my life;
- the causes of bad things that happen to me are always present in my life;
- the causes of bad things that happen to me happen in just a few situations;
- the causes of bad things that happen to me happen in all situations.

### 3. Results

Scores for each possible measure of attribution style were compared by order of administration. An independent groups *t*-test suggested no significant differences occurred between the order of the administration of the original and amended questionnaire (*t* was no larger than 1.7 for any tests performed;  $P > 0.05$ ).

Table 1 shows a breakdown of the internal reliability for each version of the attribution style, with satisfactory reliability suggested at above 0.7 (Kline, 1986). For the original version of the Attribution Style Questionnaire, all, except one (specific-global for bad events), of the subscales of attribution style fall below the 0.7 criteria. For the Kinderman and Bentalls' version of attribution style (using a 7-point response format) all internal reliability statistics demonstrate adequate reliability.

Table 2 shows the correlations between the different formats of the Attribution Style Questionnaire, and scores on both indices of depression and corresponding 1-item measure of attribution style by sex.

Table 1

This table shows a breakdown of the internal reliability for each version of the attribution style for the total sample

	Original measure of attribution style		Kinderman and Bentall (Response scale response)	
	6 good items	6 bad items	6 good items	6 bad items
Internal			0.79	0.74
External <sup>a</sup>	0.54	0.51	0.91	0.84
Circumstances <sup>a</sup>			0.88	0.83
Stable	0.58	0.66	0.93	0.91
Unstable			0.91	0.87
Global	0.54	0.80	0.87	0.90
Specific			0.91	0.93

<sup>a</sup> Represents the same end of the dimension for the original questionnaire.



Table 2  
Pearson Product-moment correlation coefficients between the different format of the Attribution Style Questionnaire and scores on both indices of depression and corresponding 1-item measure of attribution style ( $P < 0.05$ ;  $**P < 0.01$ )

	Men ( $N = 140$ )				Women ( $N = 160$ )			
	BDI	GHQ DEP	1 item measure <sup>1</sup>	BDI	GHQ DEP	1 item measure <sup>1</sup>	BDI	GHQ DEP
<b>Original version of Attribution Style questionnaire</b>								
Internal-external (good events)	0.13	-0.05	0.22** (I)-0.17* (E)	-0.14	0.16*	0.22* (I)-0.13 (E)		
Internal-external (bad events)	0.22**	0.17*	0.23** (I)-0.15 (E)	0.22**	0.16	0.14 (I)-0.17* (E)		
Stable-unstable (good events)	0.10	0.11	0.12 (S)-0.17* (U)	0.12	0.07	0.13 (S)-0.15* (U)		
Stable-unstable (bad events)	0.25**	0.11	0.09 (S)-0.15 (U)	0.24**	-0.04	0.15 (S)-0.18* (U)		
Global-specific (good events)	-0.15	-0.14	0.14 (G)-0.19* (S)	0.06	0.05	0.24** (G)-0.19* (S)		
Global-specific (bad events)	0.17*	0.12	0.17* (G)-0.18* (S)	0.17*	0.14	0.13 (G)-0.15 (S)		
<b>Kinderman and Bentall version: Response format</b>								
Internal (good events)	-0.09	-0.04	0.42**	-0.15	-0.27**	0.46**		
Internal (bad events)	0.37**	0.27**	0.32**	0.30**	0.25**	0.45**		
External (good events)	-0.25**	-0.27**	0.33**	-0.27**	-0.35**	0.49**		
External (bad events)	-0.06	0.07	0.29**	0.08	-0.01	0.45**		
Circumstances (good events)	0.11	0.11	0.28**	0.10	-0.15	0.43**		
Circumstances (bad events)	0.01	0.10	0.31**	0.11	0.03	0.22**		
Stable (good events)	-0.11	-0.12	0.47**	-0.15	-0.17*	0.42**		
Stable (bad events)	0.35**	0.28**	0.34**	0.34**	0.26**	0.51**		
Unstable (good events)	-0.26**	-0.33**	0.35**	-0.32**	-0.21**	0.45**		
Unstable (bad events)	0.03	-0.17*	0.33**	0.10	-0.15	0.43**		
Global (good events)	-0.14	-0.13	0.34**	-0.15	0.10	0.42**		
Global (bad events)	0.37**	0.22**	0.31**	0.34**	0.26**	0.55**		
Specific (good events)	-0.33**	-0.33**	0.32**	-0.32**	-0.31**	0.45**		
Specific (bad events)	0.09	0.11	0.31**	0.10	-0.15	0.43**		

In terms of the relationship between the original version of the Attribution Style Questionnaire and the Beck Depression Inventory, internal, stable and global attributions for bad events are significantly positively associated with depressive symptoms, for both men and women. For the original version of the Attribution Style Questionnaire and the depression measure contained within the General Health Questionnaire, among men, internal attributions for bad events are significantly positively associated with depression. Among women, internal attributions to good events are significantly positively associated with depression. In terms of the Original Attribution Style, and the corresponding 1-item measures of attribution style (for each measure it can be argued there are two corresponding 1-item measures), among men, internal and global attribution style to good and bad events, and a stable attribution style to good events shares a significant association with at least one of the two corresponding 1-item measure of attribution style. Among women, internal and stable attribution style to good and bad events, and a global attribution style to good events shares a significant association with at least one of the two corresponding 1-item measures of attribution style.

For the Kinderman and Bentalls' version of the questionnaire, among men and women, an internal, stable and global attribution style to bad events share a significant positive relationship with both measures of depression for bad events, whilst an external, unstable and specific attribution style to good events share a significant negative relationship with both measures of depression. Further, among men and women, all measures of attributions style share a significant positive association with its corresponding 1-item measure.

Further, Pearson product-moment correlation coefficients were computed for each of the subscales that had been separated out in the amended version of the Attribution Style Questionnaire. The Internal subscale shared a negative correlation with both External (good events,  $r = -0.42$ ,  $P < 0.01$ ; bad events,  $r = -0.47$ ,  $P < 0.01$ ) and Circumstances (good events,  $r = -0.41$ ,  $P < 0.01$ ; bad events,  $r = -0.43$ ,  $P < 0.01$ ) subscales. The External and Circumstances subscales shared a significant positive correlation (good events,  $r = 0.52$ ,  $P < 0.01$ ; bad events,  $r = 0.51$ ,  $P < 0.01$ ). Further, a significant negative correlation occurred between both the Stable and Unstable subscales (good events,  $r = -0.44$ ,  $P < 0.01$ ; bad events,  $r = -0.49$ ,  $P < 0.01$ ), and the Global and Specific subscales (good events,  $r = -0.50$ ,  $P < 0.01$ ; bad events,  $r = -0.52$ ,  $P < 0.01$ ).

#### 4. Discussion

The aim of the present study was to consider the suggestions made by Kinderman and Bentall (1996) regarding changes to the measurement of Attribution Style using the original version of the Attribution Style Questionnaire.

The internal reliability statistics for the amended measure of Attribution style are satisfactory and favourable to those reported for the subscales of the original version of the Attribution Style Questionnaire. Those reported for the Attribution Style Questionnaire are similar to those reported by the original authors (Peterson et al., 1982).

Further evidence of the validity of making amendments to the response format of the Attribution Style Questionnaire can be discussed in reference to the relationship between scores on both the original and amended versions of the Attribution Style Questionnaire and

corresponding scores on the measures of depression. For the amended version of the Attribution Style Questionnaire, for both men and women, an internal, stable and global attribution style to bad events share a significant positive relationship with depression, while an external, unstable and specific attribution style to good events share a significant positive relationship with depression. Among men and women, within the original version of the Attribution Style Questionnaire, the internal, stable and global attributions for bad events are only significantly positively correlated with depression as measured by the Beck Depression Inventory. This finding is consistent with previous research (Peterson & Villanova, 1988; Sweeney et al., 1986; Maltby et al., 1998). Therefore, at present, the amended version of the Attribution Style Questionnaire seems to provide a better predictor of depression scores, across two measures of depression. However, these findings need to be considered with caution, as the correlations reported in the present study, between the original Attribution Style Questionnaire and the depression measures, are lower than reported elsewhere (Sweeney et al., 1986).

Other validity for using the suggestions of Kinderman and Bentall (1996) can be found in the reported correlation between both the original and amended versions of the Attribution Style Questionnaire and corresponding 1-item measures of these constructs. The subscales contained within the amended version of the Attribution Style Questionnaire share consistent significant positive correlations with each of the corresponding 1-item measure of that construct. This finding is favourable to those correlations reported between the original version of the Attribution Style Questionnaire and the 1-item measures.

The relationship between the subscales of all aspects of the amended versions of the Attribution Style Questionnaire provides some interest. Consistent with theory (Peterson, Schwartz & Seligman, 1981), and the suggestions of Kinderman & Bentall (1996), are the findings that; the Internal Attribution Style subscale shares a significant negative relationship with External and Circumstances Attribution subscales, that the Stable Attribution Style subscale shares a significant negative relationship with Unstable Attribution subscales, and that the Global Attribution Style subscale shares a significant negative relationship with the Specific Attribution subscale. However, the correlations between each of the corresponding attribution sub-scales (internal, external and circumstances; global and specific; stable and unstable) are low, suggesting the subscales share no more than 27% of the variance. This may suggest that respondents are making finer distinctions between different attribution styles. However, such a problem is reminiscent of a debate that surrounded the definition and psychometric investigation of intrinsic (personal) and extrinsic (public) religiosity. Originally, Allport and Ross (1967) viewed these religious orientations as bi-polar, however extensive research revealed how these constructs needed to be separated out to give new useful underpinnings to the psychology of religion. These speculations may be over-stated, however, the low correlations between the Attribution Style subscales suggest the need to further examine this problem.

However, caution is required in interpreting the amended version of the Attribution Style Questionnaire over its original version, for a number of reasons. The first reason is the lack of generalizability and the use of a number of criteria variables used to establish the validity of the measures in the present study. The second reason is that there are limitations of the original version of the Attribution Style Questionnaire. Other authors have attempted to rectify problems with the original Attribution Style Questionnaire and have suggested improvements, such as the Expanded Attribution Style Questionnaire (Peterson & Villanova, 1988) and the

Attribution Style Questionnaire for general use (Dykema, Bergbower, Doctora & Peterson, 1996).

Notwithstanding, the present study demonstrates that amendments to the original version of the Attributional Style Questionnaire suggest its improved reliability and validity as a measure of attributional style. These present findings do not negate the use of the original version of the Attribution Style Questionnaire, nor can the findings be used to overturn a history of research using the concept of attribution, particularly as this original version of the Attribution Style Questionnaire demonstrates some reliability and validity among the present sample. It would be of empirical interest to see how these amendments transfer to more frequently used measures of attribution style such as the Expanded Attribution Style Questionnaire (Peterson & Villanova, 1988) and the Attribution Style Questionnaire for general use (Dykema, et al., 1996). Nevertheless, the present findings suggest that the amended version of the Attribution Style Questionnaire demonstrates satisfactory reliability, and demonstrates concurrent validity by its significant relationship with measures of depression and 1-item measures of attribution style. Consequently, the findings provide, using Kinderman and Bentalls' (1996) suggestions regarding the measurement of attribution style among UK adults, a measure of attribution style that has adequate psychometric properties and has psychological relevance to the theory of depression.

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# Religious orientation, religious coping and appraisals of stress: assessing primary appraisal factors in the relationship between religiosity and psychological well-being

John Maltby<sup>a,\*</sup>, Liza Day<sup>b</sup><sup>a</sup>*School of Psychology, University of Leicester, University Road, Leicester L1 7RH, UK*<sup>b</sup>*Sheffield Hallam University, Sheffield, UK*

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## Abstract

Two studies were used to assess cognitive appraisal factors in religious orientation, religious coping and psychological well-being. In study one, 466 (239 men and 227 women) United Kingdom adults were administered measures of religious orientation (Intrinsic, Extrinsic, Quest), religious coping, and appraisals of stress. Correlational and multiple regression analysis suggested a number of models to be tested that suggested stress appraisals involved in the relationship between religiosity and psychological well-being. In study two, 360 UK adults (187 men, 173 women) were administered measures of religious orientation, religious coping, appraisals and psychological well-being to test these models. Analysis of good-fit of these models suggests confidence in developing a model that views the relationship between religious coping and psychological well-being involving individuals' use of challenge appraisals. The findings emphasise the importance of cognitive variables that stress personal development and growth in understanding the relationship between religious coping and psychological well-being. © 2002 Published by Elsevier Science Ltd.

**Keywords:** Religiosity; Health; Intrinsic; Extrinsic; Quest; Appraisals; Coping

It is generally accepted within the psychology of religion and psychological well-being that religious orientation is related to psychological well-being. It is argued there are three main religious orientations, an intrinsic orientation toward religion, an extrinsic orientation toward religion, and a quest orientation towards religion (Baerveldt, Bunkers, DeWinter, & Kooistra, 1998; Beit-Hallahmi & Argyle, 1997; Gorsuch, 1988; Wulff, 1997). Individuals described as having an

\* Corresponding author. Tel.: +44-116-252-2170; fax: +44-116-2067.

E-mail address: jm148@le.ac.uk (J. Maltby).

1 intrinsic orientation toward religion are described as wholly committed to their religious beliefs,  
2 and the influence of religion is evident in every aspect of their life (Allport, 1966). On the other  
3 hand, those who demonstrate an extrinsic orientation toward religion have been described as  
4 using religion to provide participation in a powerful in-group (Genia & Shaw, 1991), protection,  
5 consolation, and social status (Allport & Ross, 1967), religious participation (Fleck, 1981), and an  
6 ego defence (Kahoe & Meadow, 1981). However, due to a number of studies investigating the  
7 extrinsic orientation toward religion (Gorsuch & McPherson, 1989; Gorsuch & Venable, 1983; King  
8 & Hunt, 1969; Leong & Zachar, 1990; Maltby, 1999), there is the strong suggestion that the extrinsic  
9 orientation towards religion comprises two dimensions, *extrinsic-personal* (protection, consolation)  
10 and *extrinsic-social* (religious participation, social status). Finally, a quest orientation toward reli-  
11 gion typifies an individual for whom religious involvement is 'an open-ended, responsive dialogue  
12 with existential questions raised by the contradictions and tragedies of life' (Batson, Scheonrade,  
13 & Ventis, 1993). The quest orientation is thought to comprise three religious factors (Batson et  
14 al., 1993). The first is the ability to address existential questions without reducing their *complex-*  
15 *ity*. The second is the tendency for the individual to perceive self-criticism and religious *doubt* as  
16 positive. The third is a *tentativeness* or openness to change in religious belief.

17 In regards to psychological well-being, there are three constructs of psychological well-being  
18 which dominate the literature on religious orientation and psychological well-being; depression,  
19 trait anxiety, and self-esteem (Batson et al., 1993; Batson & Ventis, 1982; Loewenthal, 1995;  
20 Wulff, 1997). Generally, studies are consistent in finding a significant negative correlation  
21 between an intrinsic orientation towards religion and depressive symptoms, trait anxiety and self-  
22 esteem, and a significant positive correlation between extrinsic orientation towards religion, and  
23 depressive symptoms, trait anxiety and self-esteem (Baker & Gorsuch, 1982; Bergin, 1983; Genia,  
24 1996; Genia & Shaw, 1991; Koenig, 1995; Maltby & Day, 2000; Maltby, Lewis, & Day, 1999;  
25 Nelson, 1989, 1990; Park, Cohen, & Herb, 1990; Sturgeon & Hamley, 1979; Watson, Morris, &  
26 Hood, 1989).

27 A quest orientation towards religion is less often used in studies examining the relationship  
28 between religious orientation and psychological well-being (Wulff, 1997). In part, this is due to its  
29 relatively recent formulation as a dimension of religious orientation. However, when considering  
30 the three psychological well-being constructs (depression, anxiety and self-esteem) that are  
31 dominant in the intrinsic/extrinsic religiosity literature, Genia (1996) reports a significant positive  
32 correlation between a Quest orientation towards religion and depression, and a significant negative  
33 relationship with higher self-esteem. However, other authors report no significant relationship  
34 between a quest orientation towards religion and depressive symptoms, trait anxiety and self-esteem  
35 (Maltby et al., 1999; Ryan, Rigby, & King, 1993).

36 However, this research has also been re-examined, with some authors suggesting that the  
37 theoretical guidance provided by making distinctions between certain sets of religious attitude,  
38 behaviors and beliefs is limited (Pargament, 1997). There have been attempts to conceptualise these  
39 relationships within a model of religious coping (Pargament, 1997). This theoretical perspective  
40 views religion as a coping process (Pargament, 1990; 1996; 1997; Pargament, Olsen, Reilly, Fal-  
41 gout, Ensing, & Vanhaisma, 1992; Pargament & Park, 1995; Pargament, Smith, Koenig, & Perez,  
42 1998). Pargament (1990, 1997) and Pargament, Smith et al. (1998) suggest that a religious coping  
43 model might better explain the relationship between religiosity and psychological well-being. He  
44 argues that such a theoretical model addresses the complex and continuous process by which

1 religion interlocks with an individual's life and allows them to deal with stresses in life. Pargament  
2 (1997) uses and extends coping theory, by arguing that religion may enter the coping process in a  
3 number of ways, with critical events, appraisals of situations, coping activities and outcomes, to  
4 which religion may be integral or external to these occurrences. There is some evidence for this view  
5 with religious coping thought to be a stronger predictor than religious orientation measures for  
6 scores on psychological well-being; with religious coping mediating the relationship between religious  
7 orientation and psychological well-being (Pargament, 1997; Pargament, Smith et al., 1998a).

8 There have been two ways that recent research has tried to examine these ideas within the  
9 context of psychological well-being. The first way is that Pargament and his colleagues have  
10 developed a number of measures of religious coping, ranging from those that concentrate on  
11 problem areas of religious coping (Pargament, Zinnbauer, et al., 1998), to identification of a  
12 number of dimensions of specific coping processes (Pargament, 1996; Pargament et al., 1992).  
13 However, Pargament, Smith et al. (1998) developed the RCOPE (and a shorter version, the brief  
14 RCOPE) which demonstrates a two-factor model of religious coping in response to stressful life  
15 events; *positive* and *negative* religious coping. The advantage of the RCOPE is that it covers a  
16 number of positive and negative religious coping styles including religious forgiveness, colla-  
17 borative religious coping, spiritual connection, and religious purification. Pargament, Smith et al.  
18 (1998) report that positive religious coping is associated with fewer symptoms of psychological  
19 distress, while negative religious coping was associated with higher levels of depression and  
20 reporting of psychological symptoms.

21 The second way is by examining other coping and psychological mechanisms that surround the  
22 relationship between religiosity and psychological well-being. A second way that the relationships  
23 between religious orientation and psychological well-being has been examined, within a coping  
24 model, is by exploring the relationships between religious orientation and psychological well-  
25 being within existing theoretical explanations of coping (Maltby & Day, 2000). As such, these  
26 ideas reflect those of Pargament, but attempt to provide a theoretical basis to the relationship  
27 between religiosity and psychological well-being within a number of cognitive, personality and  
28 social psychology explanations of psychological well-being, such as optimism, attribution style,  
29 neuroticism, and coping style. Maltby and Day found some evidence to suggest that both the  
30 intrinsic and extrinsic distinctions account for unique variance outside cognitive and social  
31 psychology accounts of depressive symptoms.

32 However, these two models of examining factors in religious orientation and general health can  
33 be used together when considering the role of cognitive appraisals that are thought to be corre-  
34 lated with psychological well-being. Ferguson, Matthews, and Cox (1999) introduced the  
35 Appraisal of Life Events (ALE) Scale, which measures three dimensions of primary appraisal:  
36 threat, challenge and loss. This measure was developed with the growing importance attached in  
37 health research to stress appraisal (Monroe & Kelly, 1995). Ferguson et al. (1999) developed the  
38 scale within the Cognitive Phenomenological model of stress (Lazarus & Folkman, 1984), in  
39 which primary (the evaluation of the stressor) and secondary (the allocation of coping resources)  
40 stress appraisals are emphasised. As such, the appraisal of life events reveals individuals' assess-  
41 ment of the potential emotional impact of stressful events and these assessments reflect three  
42 dimensions; seeing stressful events as a challenge (allowing for individual growth and devel-  
43 opment), threat (threatening and anxiety-provoking) and loss [aspects of loss and sadness;  
44 (Ferguson, 2000)].



Using the General Health Questionnaire as an indicator of psychological well being (depression, anxiety, somatic symptoms, and social dysfunction), Ferguson et al. (1999) report that these three aspects of appraisal are significantly related to psychological well-being. Ferguson et al. (1999) found the use of Challenge Appraisals to be associated with better psychological well-being, and the use of both the Threat and Loss appraisals to be associated with poorer psychological well-being.

These relationships between appraisal of life and psychological well-being provide an opportunity to describe the relationship between religious coping, religious orientation and psychological well-being within wider psychological theory. Pargament, Smith et al. (1998) maintains that it is better to view religiosity as interlocking with psychological well-being as a continual process. Therefore, an examination of the relationship between religious orientation, religious coping and cognitive primary appraisals will reveal how these aspects of religiosity are linked to cognitive processes that influence psychological well-being. If significant relationships were found between appraisals of stress, and both, or either, religious orientation and religious coping, this would provide researchers with a further understanding of the mechanisms that underpin the relationship between religiosity and psychological well-being. The aim of the present study was to examine the relationship between religious orientation, religious coping and cognitive primary appraisals to assess possible factors in the relationship between religiosity and psychological well-being.

## 1. Study one

### 1.1. Method

#### 1.1.1. Sample

Four hundred and sixty-six (239 men and 227 women) adults from the north of England, aged between 21 and 47 years (Mean = 34.02; S.D. = 5.04) took part in the study. Respondents were sampled from a number of workplaces, church congregations and local community groups. Among the sample, 277 respondents were white, 64 were Black Caribbean, 22 were Black African, 99 were Black British and four reported to be Black other. Further, 222 of the sample were married, 163 were single, 32 separated and 49 were divorced; 304 were employed, 103 were unemployed but seeking work, 35 were unemployed, and 24 reported to be a house-husband or wife; and, in terms of highest educational qualifications received, nine respondents had a postgraduate qualification, 111 had a degree, 56 had attended college for at least 1 year, 95 had an 'A' level or equivalent, 130 had 'O' level or equivalent and 65 had left school with no qualification.

#### 1.1.2. Measures

A number of religiosity, spirituality, religious coping, personality, psychological well-being and coping measures were administered among the present sample.

*1.1.2.1. The 'Age-Universal' I-E Scale—12 (Gorsuch & Venable, 1983; Maltby, 1999).* This scale is a derived, revised, and amended measure of the Religious Orientation Scale (Allport & Ross, 1967). Since the inception of the Religious Orientation Scale, a number of suggestions have been made to improve psychometric confidence in the measurement of the intrinsic and extrinsic religious

orientations. Suggestions have included item changes, changes in response format, and scoring methods (Gorsuch & McPherson, 1989; Gorsuch & Venable, 1983; King & Hunt, 1969; Leong & Zachar, 1990; Maltby & Lewis, 1996). In the main, consideration of such changes suggests that the intrinsic orientation towards religion is a constant feature of religious orientation, while an extrinsic orientation towards religion represents two separate factors; extrinsic-social and extrinsic-personal. The present scale administered is a 12-item version of the 'Age-Universal' Religious Orientation Scale (Gorsuch & Venable, 1983) which adopts items suggested by Gorsuch and McPherson (1989), and changes to the response format (Maltby & Lewis, 1996). Maltby (1999) reports among 3300 USA, English and Irish adults, psychometric confidence in combining these suggestions to measure intrinsic orientation towards religion (six-items), an extrinsic-personal orientation towards religion (three-items) and extrinsic-social orientation towards religion (three-items).

*1.1.2.2. A 12-item version of the Quest scale (Batson & Scheonrade, 1991a, 1991b).* The scale comprises three measures of a quest orientation toward religion, religious *complexity*, religious *doubt*, and religious *tentativeness* or openness to change. Reported internal reliability statistics are above 0.7 (Batson & Scheonrade, 1991a, 1991b) and the present version administered incorporated some amendments to the response-format of the scale, and two re-written items to facilitate the measurement of the quest orientation towards religion among samples comprising religious and non-religious persons (Maltby & Day, 1998).

*1.1.2.3. The brief RCOPE (Pargament, Smith et al., 1998).* This religious coping measure is a 14-item indicator of a 2-factor model of positive and negative religious coping. Positive coping items include ['I looked for a stronger connection with God' (item 1), 'Focused on religion to stop worrying about my problems' (item 7)], and negative religious coping items ('Wondered whether God had abandoned me' (item 8), 'Questioned the power of God' (item 14)].

*1.1.2.4. The Appraisal of Life Events Scale (Ferguson et al., 1999).* The Appraisal of Life Events (ALE) scale is a 16 item self-report adjective checklist designed to elicit participants' appraisals of a situation's potential emotional impact (Ferguson, 2000). There are three dimensions of primary appraisal: (1) Threat, (2) Challenge and (3) Loss (Ferguson, 2000). The scale comprises 16 adjectives to form the three dimensions: threat, challenge and loss (see Ferguson, Matthews, & Cox, 1999). Each adjective is scored along a six point Likert-type scale (where 0 = *Not at all* to 5 = *Very much so*).

## 1.2. Results

Table 1 shows mean scores for all the variables by sex. Among the present sample, women scored significantly higher than men for the majority of the religious measures, with the exceptions of negative religious coping (in which men score significantly higher than women) and extrinsic-personal orientation towards religion (where no significant difference occurs for sex). The finding, that women scored higher than men on many of the religiosity measures used in the present study, are consistent with the general view that women are more religious than men (Beit-Hallahmi & Argyle, 1997; Francis & Wilcox, 1994; Wulff, 1997). Among the other measures, men were found to score significantly higher than women on the measures of threat and loss appraisals.

Table 1  
Mean scores and standard deviations of all the scales by sex

Scales	Men (N=239)	Women (N=227)	t
1. Intrinsic	5.61 (2.7)	7.91 (2.9)	-8.83**
2. Extrinsic-Personal	4.17 (1.4)	4.34 (1.2)	-1.40
3. Extrinsic-Social	3.10 (1.3)	3.63 (1.3)	-4.35**
4. Quest-Complexity	3.42 (1.6)	4.97 (2.1)	-8.91**
5. Quest-Doubt	4.51 (1.7)	5.00 (1.9)	-2.92**
6. Quest-Tentativeness	3.25 (1.7)	3.84 (1.9)	-3.52**
7. Positive Religious Coping	9.10 (3.8)	12.3 (3.4)	-9.47**
8. Negative Religious Coping	9.06 (3.4)	8.10 (2.5)	3.43**
9. Challenge	5.45 (2.7)	5.11 (2.9)	1.30
10. Threat	15.8 (4.0)	12.6 (5.4)	7.31**
11. Loss	11.9 (2.5)	9.80 (3.3)	7.68**

\* $P < 0.05$ ; \*\* $P < 0.01$ .

Table 2 shows a correlation matrix between all the variables.<sup>1</sup> The correlations reveal a number of significant correlations between the religious orientation, religious coping, and stress appraisal measures.

Due to the number of significant correlations, Table 3 shows the results of six standard multiple regressions performed with each of the appraisals of stress measures (challenge, threat, and loss) used as dependent variables, and the variables found to be significantly related to each appraisal style, by sex.<sup>2</sup> Included in this table is the unstandardized regression coefficients ( $B$ ), the standardised regression coefficients ( $\beta$ ), the semipartial correlations ( $sr^2$ ),  $r$ ,  $r^2$  and adjusted  $r^2$ .

Among males, the regression statistic ( $r$ ) was significantly different from zero for challenge appraisals ( $F_{(4,234)} = 10.04$ ,  $P < 0.001$ ), threat appraisals ( $F_{(6,1232)} = 14.13$ ,  $P < 0.001$ ), and loss appraisals ( $F_{(4,234)} = 13.07$ ,  $P < 0.001$ ). In ascending order, positive religious coping, intrinsic and quest-complexity orientations toward religion account for unique variance in challenge appraisals; extrinsic-social, quest-complexity, intrinsic orientations toward religion and negative religious coping account for unique variance in threat appraisals, and quest-tentativeness, extrinsic-social, and quest-complexity orientations toward religion account for unique variance in loss appraisals.

Among females, the regression statistic ( $r$ ) was significantly different from zero for challenge appraisals ( $F_{(3,223)} = 12.45$ ,  $P < 0.001$ ), threat appraisals ( $F_{(7,1219)} = 24.91$ ,  $P < 0.001$ ), and loss appraisals ( $F_{(8,218)} = 11.10$ ,  $P < 0.001$ ). Using an ascending order for each appraisal, positive religious coping accounts for unique variance in challenge appraisals, an intrinsic, extrinsic-social, quest-tentativeness and quest-complexity orientations toward religion account for unique variance in threat appraisals, and a quest-tentativeness and quest-complexity orientations toward religion account for unique variance in loss appraisals.

<sup>1</sup> To facilitate comparisons with previous research total scores for both the extrinsic and quest orientations towards religion are also included in this matrix.

<sup>2</sup> Loss, Threat and Challenge appraisals theoretically and empirically have been shown to be distinct factors (Ferguson et al., 1999) and therefore these were not used as independent variables in the analysis.

Table 2  
Correlations between all the variables<sup>a</sup>

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Intrinsic	—	0.17**	-0.05	0.32**	0.20**	0.19**	0.09	0.12	0.09	-0.06	-0.14*	-0.15*	-0.04
2. Extrinsic (Total Scores)	-0.18**	—	0.79**	0.77**	-0.03	0.04	0.17**	-0.25**	0.03	-0.08	-0.03	0.16*	0.24**
3. Extrinsic-Personal	-0.18*	0.64**	—	0.21**	-0.06	0.16*	0.13	-0.40**	0.05	-0.05	0.01	-0.02	0.10
4. Extrinsic-Social	-0.06	0.71**	-0.09	—	0.03	-0.13*	0.14*	0.02	-0.02	-0.07	-0.06	0.27**	0.27**
5. Quest (Total Scores)	0.35**	-0.16*	-0.102	-0.12	—	0.66**	0.69**	0.63**	-0.08	0.06	-0.09	-0.06	-0.01
6. Quest-Complexity	0.34**	-0.10	-0.04	-0.09	0.82**	—	0.20*	0.11	-0.03	0.01	-0.17**	-0.35**	-0.23**
7. Quest-Doubt	0.09	-0.08	-0.01	-0.10	0.69**	0.43**	—	0.10	0.07	-0.04	-0.12	0.17*	-0.01
8. Quest-Tentativeness	0.32**	-0.18**	-0.17**	-0.08	0.64**	0.31**	0.09	—	-0.05	0.01	0.11	-0.01	0.17**
9. Positive Religious Coping	0.40**	-0.16*	-0.17**	-0.06	0.21**	0.19**	-0.05	0.18*	—	-0.35**	0.32**	-0.17**	-0.11
10. Negative Religious Coping	0.03	-0.01	0.03	-0.04	-0.18**	-0.12	-0.07	-0.22**	-0.08	—	-0.14*	0.16**	0.09
11. Challenge	0.03	-0.15*	-0.06	-0.13*	-0.09	-0.09	-0.09	-0.01	0.30**	0.10	—	-0.06	0.05
12. Threat	-0.49**	0.24**	0.05	0.27**	-0.48**	-0.41**	-0.24**	-0.39**	-0.31**	0.08	-0.09	—	0.26**
13. Loss	-0.33**	-0.06	-0.02	-0.07	-0.40**	-0.34**	-0.15**	-0.38**	-0.14*	0.16*	0.15*	0.37**	—

\* $P < 0.05$ ; \*\* $P < 0.01$ .

<sup>a</sup> Above diagonal: males ( $n = 239$ ); below diagonal: females ( $N = 227$ ).

Table 3  
Standard multiple regressions performed with each of the appraisal of stress measures (Challenge, Threat, and Loss) used as dependent variables, and the variables found to be significantly related to each appraisal style, by sex

Males (N=239)				Females (N=227)			
Scales	B	Beta	Sr <sup>2</sup>	Scales	B	Beta	Sr <sup>2</sup>
<i>Challenge</i>							
Positive Religious Coping	0.22	0.32	0.10**	Positive Religious Coping	0.25	0.29	0.08**
Quest-Complexity	-0.21	-0.12	0.01*	Extrinsic-Social	-0.26	-0.11	
Negative Religious Coping	-0.09	-0.01					
Intrinsic Religious Orientation	-0.15	-0.15	0.02*				
			r <sup>2</sup> =0.15				r <sup>2</sup> =0.10
			Adj r <sup>2</sup> =0.13				Adj r <sup>2</sup> =0.09
			r=0.38				r=0.32
<i>Threat</i>							
Quest-Complexity	-0.61	-0.24	0.06**	Intrinsic	-0.58	-0.31	0.10**
Extrinsic-Social	0.92	0.31	0.10**	Quest-Complexity	-0.42	-0.16	0.03*
Positive Religious Coping	-0.11	-0.11		Quest-Tentativeness	-0.54	-0.19	0.04**
Negative Religious Coping	0.19	0.17	0.03*	Positive Religious Coping	-0.16	-0.10	
Intrinsic Religious Orientation	-0.30	-0.20	0.04**	Extrinsic Social	0.84	0.20	0.04**
				Quest-Doubt	-0.27	-0.09	
			r <sup>2</sup> =0.23				r <sup>2</sup> =0.41
			Adj r <sup>2</sup> =0.22				Adj r <sup>2</sup> =0.39
			r=0.48				r=0.64
<i>Loss</i>							
Extrinsic-Social	0.46	0.24	0.06**	Quest-Tentativeness	0.44	0.26	0.07**
Quest-Complexity	-0.33	-0.20	0.04**	Quest-Complexity	-0.28	-0.18	0.03*
Quest-Tentativeness	0.29	0.19	0.04**	Intrinsic	-0.21	-0.19	0.03*
				Negative Religious Coping	0.07	0.06	
				Quest-Doubt	0.04	0.03	
				Positive Religious Coping	-0.01	0.02	
			r <sup>2</sup> =0.14				r <sup>2</sup> =0.23
			Adj r <sup>2</sup> =0.13				Adj r <sup>2</sup> =0.21
			r=0.38				r=0.48

### 1.3. Discussion

The aim of the present study was to examine the relationship between religious orientation, religious coping and appraisals of stress. A number of patterns emerge when considering each of the cognitive appraisals of stress.

First, among both men and women, positive religious coping accounts for the largest amount of unique variance in the use of challenge appraisals. This finding suggests that individuals, who use positive religious coping, adopt a positive view to stress, interpreting stressful events as allowing for personal development and growth.

Secondly, the quest-complexity and extrinsic-social orientations towards religion are found to account for unique variance in the use of the threat and loss appraisals among both men and

1 women, with the extrinsic-social orientation positively correlated, and quest-complexity correlated  
 2 negatively with both of these appraisal constructs. The finding that an extrinsic orientation  
 3 towards religion is related to viewing stressful events as anxiety provoking (threat) and reflecting  
 4 aspects of loss and sadness (loss) is consistent with the view that extrinsic-social religious orien-  
 5 tation is associated with poorer psychological well-being. Further, it would also seem that indi-  
 6 viduals who are unable to address existential questions without reducing their complexity tend to  
 7 view stressful events as either a threat or loss. As such, these findings support the view that more  
 8 reflective aspects of religious orientation (quest) are related to cognitive appraisals. Some further  
 9 support for this view is found in that the quest-tentativeness religious orientation is negatively  
 10 related to the use of threat (among men only) and loss appraisals (among men and women). This  
 11 finding suggests that individuals who are not open to changes in religious belief tend to use these  
 12 mal-adaptive cognitive appraisals.

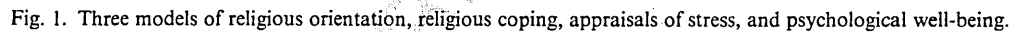
13 Thirdly, an intrinsic orientation towards religion is negatively related to the use of threat  
 14 appraisals. This finding is generally consistent with the view that intrinsic religiosity is often  
 15 associated with better psychological well-being.

16 Further to these patterns, among men, both the quest-complexity and intrinsic religious orien-  
 17 tations account for unique variance in scores on the challenge appraisal measure, and negative  
 18 religious coping accounts for unique variance in the use of threat appraisals. As such, these  
 19 findings suggest that males displaying these aspects of religiosity tend to approach stressful events  
 20 using these types of appraisals.

21 However, the four main patterns that emerge from the findings begin to describe and extend the  
 22 view of the psychological mechanisms that surround the relationship between religious orienta-  
 23 tion, religious coping and psychological well-being. In terms of religious orientation, researchers  
 24 can begin to view an extrinsic-social orientation towards religion (in terms of making threat and  
 25 loss appraisals), a quest-complexity orientation towards religion (in terms of not making threat  
 26 and loss appraisals), intrinsic orientation (in terms of not making threat appraisals), and a quest-  
 27 tentativeness orientation towards religion (in terms of not making loss appraisals) as the  
 28 mechanisms that are important to psychological well-being. Further, in terms of religious coping,  
 29 individuals using positive religious coping tend to interpret stressful events as challenging. As  
 30 such, these conclusions begin to describe the psychological processes that may underpin the  
 31 relationships between religiosity and psychological well-being, and suggest that the cognitive  
 32 appraisals that individuals make may be important mediators in these relationships. From this,  
 33 three theoretical models can be suggested using those findings that are replicated across male and  
 34 female samples (see Fig. 1).

35 In the first model (Fig. 1a), it is argued that challenge appraisals are important in the relation-  
 36 ship between religious coping and psychological well-being. The theory underlying this model  
 37 suggests that challenge stress appraisals are an important aspect to the relationship between  
 38 positive religious coping and psychological well-being. This model suggests that those individuals  
 39 for whom religiosity reflects positive religious coping are able to appraise stressful events as  
 40 allowing personal growth and development and these appraisals have a positive influence on  
 41 psychological well-being.

42 In the second model (Fig. 1b), it is argued that threat appraisals are important in the relation-  
 43 ship between the extrinsic-social, intrinsic, and quest-complexity orientations toward religion and  
 44 psychological well-being. That is, that those individuals high in extrinsic-social orientation



In the third model (Fig. 1c), it is argued that loss appraisals are important in the relationship between the quest-complexity and quest-tentativeness orientations toward religion and psychological well-being. Among these variables it could be suggested that those individuals scoring higher in a quest-tentativeness orientation towards religion and scoring lower in a quest-complexity orientation towards religion tend to view stressful events as threatening, and this leads to poorer psychological well-being.

These models can be investigated, by linking religious orientation, religious coping and stress appraisals to psychological well-being, and by comparing whether cognitive appraisals of stress are important factors in the relationship between religiosity and psychological well-being. The aim of study two was to examine these possible models that link the relationship between religious orientation, religious coping and psychological well-being using measures of primary appraisals of stress.

## 2. Study two

### 2.1. Method

#### 2.1.1. Sample

Three hundred and sixty (187 men and 173 women) adults from the north of England, aged between 21 and 47 years (Mean = 33.87; S.D. = 4.97) took part in the study. Respondents were sampled from a number of workplaces, church congregations and local community groups. Among the sample, 235 respondents were white, 45 were Black Caribbean, six were Black African, 70 were Black British and four reported to be Black other. Further, 170 of the sample were married, 127 were single, 37 separated and 26 were divorced; 237 were employed, 78 were unemployed but seeking work, 24 were unemployed, and 21 reported to be a house-husband or wife; and, in terms of highest educational qualification received, seven respondents had a postgraduate qualification, 84 had a degree, 47 had attended college for at least 1 year, 73 had an 'A' level or equivalent, 99 had 'O' level or equivalent and 50 had left school with no qualifications.

#### 2.1.2. Measures

A number of religiosity, spirituality, religious coping, personality, psychological well-being and coping measures were administered among the present sample.

1. The 'Age-Universal' I-E Scale—12 (Gorsuch & Venable, 1983; Maltby, 1999)  
From this scale, indices of Extrinsic-Social and Intrinsic religious orientation was derived.
2. A 12-item version of the Quest scale (Batson & Scheonrade, 1991a, 1991b)  
From this measure indices of quest-complexity and quest-tentativeness orientations toward religion was derived.
3. The brief RCOPE (Pargament et al., 1998a)  
From this a measure of positive religious coping was derived.
4. The Appraisal of Life Events Scale (Ferguson et al., 1999).
5. The General Health Questionnaire—28 (Goldberg & Williams, 1991). Each of these scales comprise seven-item measures of depressive symptoms, anxiety symptoms, social dysfunction and somatic symptoms.

### 2.2. Results

Table 4 shows a Pearson product-moment correlation coefficient matrix between all the variables.

The correlations reveal a number of significant correlations between the religious orientation, religious coping, stress appraisal and psychological well-being measures. More specifically, significant correlations can be found that replicate the findings in Study 1, and, in addition, are consistent with each of the proposed models. For the first model, positive religious coping is significantly associated with the use of challenge appraisals, and both these variables share a significant negative correlation with the four indices of psychological well-being. For the second model, intrinsic, extrinsic-social, quest-complexity orientations toward religion, threat appraisals, and the measures of psychological well-being are significantly related in the expected directions, and are



Table 4

Correlations between all the variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Intrinsic	1.00	0.16**	0.42**	0.29**	0.38**	-0.07	-0.44**	-0.32**	-0.32**	-0.42**	-0.35**	-0.38**
2. Extrinsic-Social		1.00	-0.01	-0.02	0.05	-0.12*	0.17**	-0.02	0.17**	0.13*	0.13*	0.21**
3. Quest-Complexity			1.00	0.26**	0.24**	-0.14**	-0.47**	-0.39**	0.25**	-0.27**	-0.10*	-0.20**
4. Quest-Tentativeness				1.00	0.18*	0.03	-0.27**	-0.20**	-0.20**	-0.29**	-0.12*	-0.23**
5. Positive Religious Coping					1.00	0.27**	-0.34**	-0.28**	-0.44**	-0.39**	-0.41**	-0.35**
6. Challenge						1.00	-0.03	-0.17**	-0.23**	-0.16**	-0.28**	-0.24**
7. Threat							1.00	0.40**	0.43**	0.33**	0.31**	0.34**
8. Loss								1.00	0.30**	0.32**	0.20**	0.20**
9. Depression									1.00	0.38**	0.28**	0.26**
10. Anxiety										1.00	0.29**	0.27**
11. Social Dysfunction											1.00	0.29**
12. Somatic Symptoms												1.00

*P* < 0.05; \*\* *P* < 0.01.

consistent with the findings in study one. Similarly, for the third model, quest-complexity and quest-tentativeness orientations toward religion, loss appraisals, and the measures of psychological well-being are significantly related in the expected directions, and those consistent with the findings in study one. These correlations suggest that among the present sample the three models are suitable to be analysed for good-fit.

The models were analysed using PRELIS and LISREL 8. The following LISREL analysis was assessed on the co-variance matrices. PRELIS analysis was used to assess the univariate and multivariate normality of the measured variables. Kurtosis statistics to assess univariate and multivariate normality were all non-significant. The model parameters were estimated using LISREL 8.

For each of the models, separate analyses were run for each of the psychological well-being measures (depression, anxiety, social dysfunction and somatic symptoms). Table 5 shows the goodness of fit statistics reported for each of the models using cut-off criteria of 0.95 for the ML based statistics (TLI, IFI, CFI; Hu & Bentler, 1999).

Using the goodness of fit indices, the Religious Coping-Challenge-Psychological Well-being model, for depression and anxiety, presents a good description of the data. However, the indicators of good-fit do not suggest the other models present a good description of the data.

### 2.3. Discussion

The present findings suggest importance be attached to the theory that the use of challenge appraisals is an important factor in examining the relationship between positive religious coping and the four indices of psychological well-being. This model suggests that individuals who use

Table 5  
Goodness-of-Fit statistics for each of the models<sup>a</sup>

	$\chi^2$	GFI	AGFI	NFI	TLI (NNFI)	CFI	IFI (BL89)
<i>Model 1</i>							
Depression	4.68	0.99	0.97	0.96	0.96	0.95	0.96
Anxiety	0.56	0.99	0.98	0.98	0.97	0.98	0.98
Social Dysfunction	13.66	0.98	0.85	0.87	0.71	0.88	0.87
Somatic Symptoms	6.76	0.99	0.93	0.93	0.92	0.91	0.92
<i>Model 2</i>							
Depression	102.59	0.91	0.55	0.54	0.48	0.57	0.54
Anxiety	66.93	0.94	0.68	0.69	0.68	0.60	0.68
Social Dysfunction	79.66	0.93	0.63	0.61	0.61	0.55	0.62
Somatic Symptoms	79.52	0.93	0.63	0.60	0.62	0.57	0.63
<i>Model 3</i>							
Depression	63.03	0.94	0.70	0.67	0.66	0.60	0.66
Anxiety	65.38	0.94	0.69	0.64	0.64	0.59	0.67
Social Dysfunction	53.94	0.95	0.74	0.73	0.73	0.63	0.72
Somatic Symptoms	47.69	0.95	0.76	0.75	0.74	0.65	0.74

<sup>a</sup> Model 1: Religious Coping-Challenge-Psychological Well-being model; Model 2: Orientation-Threat Appraisals-Psychological Well-being; Model 3: Religious Orientation-Loss Appraisals-Psychological Well-being.

1 positive religious coping are able to view stressful events as opportunities for positive growth and  
2 development, and that this has a positive effect on psychological well-being. Therefore, the pre-  
3 sent findings begin to characterise a full account of the psychological processes involved in the  
4 relationship between positive religious coping and psychological well-being.

5 However, no support is found for the other models developed. Therefore the correlation  
6 between religious orientation and threat and loss appraisals need to be further considered and  
7 conceptualised. It is then suggested that further research still seeks to employ all measures of  
8 religious orientation and religious coping, when further examining these ideas, to ensure that the  
9 significant variables found in this study are not just specific to the present sample.

10 Within the present study clear distinctions emerge between religious coping and religious  
11 orientation, and their relationship to stress appraisal and coping. In terms of religious coping, it  
12 would seem that the emphasis in further research should be on those positive aspects of belief,  
13 appraisal and psychological well-being. This is sometimes a neglected emphasis within the psy-  
14 chology of religion, whereby positive outlook and outcomes are central to the research questions.  
15 Future research should explore whether other religious attitudes and behaviours, particularly  
16 those that emphasise positive outcomes, such as optimism, positive affect, satisfaction or high  
17 self-esteem can be considered within these positive aspects to religion (e.g. Jung, 1933).

18 With the measures of religious orientation there are some different conclusions. Though both  
19 intrinsic, extrinsic, quest-complexity orientations towards religion are related to primary apprai-  
20 sals (threat and loss), no support is found for models that incorporate these relationships to  
21 understand the relationship between religiosity and psychological well-being. However, the pre-  
22 sent findings suggest that, although there is a dominance of intrinsic and extrinsic orientation  
23 towards religion in the religious-well-being literature, there is some added value in viewing the  
24 quest orientations towards religion as important in the relationship between religious orientation  
25 and primary appraisals.

26 Together, the present findings provide insight into the different ways religious orientation and  
27 religious coping are related to the different ways of approaching stress. Further, the present  
28 studies provide support for a theory that suggests that positive religious coping engenders a  
29 challenge approach to stress that aids psychological well-being.

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34 Carver et al., 1989; Joreskog & Sorbom, 1999; Schumacker & Lomax, 1996

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