A MIXED METHOD EXAMINATION INTO THE EFFECTS OF AN EIGHT-WEEK MINDFULNESS TRAINING COURSE ON STRESS AND EMPATHY LEVELS IN MASTER’S LEVEL PSYCHOTHERAPY STUDENTS

by
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so that I might see anew,

hear anew,

feel anew,

habit spoils our philosophy.

Abstract

Previous research reports positive effects of mindfulness training in increasing empathy and reducing stress in mental health and social work professionals. However past studies have tended to use either qualitative or quantitative methods of inquiry. This study used a mixed method design in order to gain a fuller understanding of the effects of an eight-week mindfulness-based cognitive therapy (MBCT) course on mindfulness, stress and empathy in Master’s level psychotherapy trainees. A convenience sample of 18 students participated in the study, nine took part in the eight-week mindfulness course and a control group of nine students did not take the course. Stress, empathy and mindfulness of both groups were measured using paired sample t tests pre and post course. Participation in the intervention resulted in significantly favourable increased levels of mindfulness (p < 0.01) and the perspective taking dimension of empathy (p < 0.01). Participation also resulted in significantly favourable reduced levels of perceived stress (p < 0.01) and the personal distress dimension of empathy (p < 0.05). The empathic concern dimension of empathy showed a favourable upward trend. The Fantasy Scale dimension showed no change. Mindfulness was positively correlated with Perspective Taking (cognitive empathy). It was negatively correlated with Perceived Stress and Personal Distress (affective empathy) so that higher levels of mindfulness predicted lower levels of both Perceived Stress and Personal Distress (the personal stress invoked in seeing other’s distress).

Participants of the mindfulness course also took part in a focus group one month after completion of the course. Participants reported using mindfulness as an ongoing resource to manage stress. They also reported having an increased ability to tolerate
being alone with difficult emotions, an increased awareness of automaticity, an increase in self and other body awareness, and an increased ability to differentiate between their own emotions and those of their clients. The comparison of the qualitative and quantitative data pointed to a gap in information in the measure of empathy used in the quantitative part of this study, namely there is no measure of the body awareness dimension of empathy in the Interpersonal Reactivity Index. This information can be used to further the understanding of mindfulness and to add to the calls for mindfulness training to be included on professional psychotherapy training courses in psychotherapy.
Chapter 1 – Introduction

It has been suggested that mindfulness should be included on professional training courses in psychotherapy as a way of fostering empathy and mitigating stress (Bruce et al 2010, Siegel 2010, Christopher & Maris 2010, Grepmair et al 2008, Germer et al 2005). How can student therapists learn to sit with others who are suffering, to feel their pain and understand with compassion how things must be for them, while at the same time manage to soothe the suffering that may emerge in themselves through this process? Mindfulness is increasingly being seen as a practice which can help therapists to do just that.

Daniel Siegel, for example, sees mindfulness as “a tool that can give us the strength and skills as clinicians to know ourselves so deeply that we .. maintain our own equilibrium while bringing clarity to others’ confusion and tranquility to their turmoil” (Siegel, 2010, p xiv). As will be discussed in detail in this paper, this deep knowing of ourselves may be fundamental to our ability to be fully present for our clients, to be truly empathic while maintaining our own sense of self.

Empathy has been identified as an essential element in the therapeutic relationship predicting positive client outcome (Hubble, Duncan & Miller, 1999; Lambert & Barley, 2002, Cozolino 2006) and is considered a common therapeutic factor across all modalities of psychotherapy (Lambert et al 2001).
Yet, although therapist empathy has been identified as an essential skill of therapy, it seems that, until quite recently, very little attention has been directed towards finding ways to cultivate empathy in professional psychotherapy training courses (Shapiro, in Hick & Bien 2008). Shapiro points out that since Traux and Carkhuff’s study (Traux & Carkhuff 1963) which showed that therapist empathy levels tend not to change or actually decrease in professional training, there has been little research into ways for increasing empathy on professional training courses, which points to a marked discrepancy between the field’s apparent valuing of empathy and its relative inattention to finding concrete ways of fostering it (Shapiro in Hicks & Bien 2008).

There is a growing body of research suggesting that mindfulness may be an effective way of fostering empathy (Beddoe & Murphy 2004, Shapiro et al 1998). Allied with this, is evidence that mindfulness may decrease stress in mental health professionals thus mitigating the documented high risks for those professionals of “burnout” (Christopher Chambers & Maris 2010).

This study used a mixed method approach and looked both qualitatively and quantitatively at the effects of an eight-week mindfulness course on a group of Master’s level psychotherapy students and whether the course did in fact foster empathy and reduce stress in the participants. Participants were given paired t-tests both before and after the course which measured stress, mindfulness and empathy levels. A control group was used, also consisting of Master’s level psychotherapy students – this group did not receive mindfulness training. Participants took part in a post course focus group which discussed their subjective experiences of the course
and its effects. By combining these two sets of data, a fuller picture of the effects of the mindfulness course on this group of psychotherapy trainees has been possible.

The study found that participants in the eight-week mindfulness course showed significant favourable change in levels of stress and significant favourable change in levels of empathy on two measures of the Interpersonal Reactivity Index (IRI) - a measurement of empathy. There was no significant change in the control group.

Analysis of the focus group interview showed that participants in the mindfulness course: experienced mindfulness as an on-going resource to control stress and to facilitate being alone with difficult feelings, experienced mindfulness as having increased their ability to be fully present and empathic with clients, allowing them to differentiate between internal feelings which are self generated and those which are client generated.
Chapter 2 – Literature Review

2.1 Mindfulness - History

Mindfulness is far from being a new concept, in fact, the history of mindfulness spreads back over 2500 years, forming an integral part of Buddhist teachings and philosophy. The word “mindfulness” is a translation of the Pali word “Satipatthana”, “Sati” meaning “attention”, “awareness” and “patthana” which means “keeping present” (Glomb et al 2011). Mindfulness is at the heart of Buddhist tradition and its aim is to deepen conscious awareness of the present moment. It involves focusing one’s attention and awareness on what is happening in the here and now, without being distracted by evaluating or judging what is experienced.

“In the meditative development of insight, one’s own physical and mental processes are directly viewed, without the interference of abstract concepts or the filtering screens of emotional evaluation” (Nyanaponika 1972 p 60).

Buddhist teachers speak of mindfulness in terms which seem to resonate with and seem compatible with contemporary psychotherapy theory. Nyanaponika speaking about the psychological state of modern society states:

“The detrimental effect of habitual, spontaneous reactions is manifest in what is called in a derogative sense the “force of habit”: its deadening, stultifying and
narrowing influence, productive of consciously identifying, with one’s so-called character or personality” (Nyanaponika 1972 p 46).

He speaks about the power habit has to “to limit and rigidify our character and to narrow our freedom of movement – environmental, intellectual and spiritual (Nyanaponika 1972 p 50).

He suggests that through mindfulness we can step out of the ruts which our thinking habitually follows, freeing ourselves to see the world as it is, and thus enabling ourselves to make choices in our lives which reflect our here and now reality. Nyanaponika points out that under the influence of habit:

“We perceive things selectively in a one-sided or erroneous way, and then associate them wrongly with other ideas. By applying bare attention to our perceptions and impressions, gradually we can free them from these misapprehensions, progressing steadily towards the direct vision of things as they really are” (Nyanaponika 1972 p 57).

Though mindfulness has its roots in Buddhist philosophy it is now being used in an entirely secular way by mindfulness practitioners in mainstream medical practice and in psychotherapy. Jon Kabat-Zinn was instrumental in introducing mindfulness into mainstream medical practice in the US and according to the University of Massachusetts Medical School website, more than 18,000 patients have participated in his MBSR (Mindfulness Based Stress Reduction) programme in the University of Massachusetts alone (http://www.umassmed.edu/cfm/stress/index.aspx).
Mindfulness has been shown in extensive research undertaken over this period to reduce pain and facilitate recovery for numerous medical and psychiatric conditions including cancer, chronic pain, psoriasis, high blood pressure, panic disorders and depression (Kabat-Zinn (2003), Ludwig & Kabat-Zinn (2008)). The MBSR program trains patients in mindfulness through the practices of meditation, mindful movement and the body scan.

MBCT (Segal, Williams & Teasdale (2002)) or Mindfulness based cognitive therapy, is a variant of MBSR which combines elements of cognitive behaviour therapy with mindfulness meditation for use in therapeutic practice in psychotherapy. It was developed for the treatment and relapse prevention in major depression where it has been found to significantly reduce further relapses compared to control groups (Ma & Teasdale (2004)).

DBT or Dialectical behaviour Therapy, another variant of MBSR has been developed for the treatment of patients with borderline personality disorder and studies show that it is efficacious in the treatment of that disorder (Linehan (1993))

Other therapies are developing which are incorporating mindfulness including ACT, Acceptance and Commitment Therapy (Hayes et al 2004) and Hakomi therapy (Kurtz 1990).

In recent years, interest in mindfulness has extended beyond practitioners of cognitive therapies and it is now the focus of attention by both humanistic and
psychoanalytical approaches in terms of what practitioner mindfulness can bring to the therapeutic relationship (Cigolla and Brown 2011). Brown and Ryan (2003 p 823) compare mindfulness and Freud’s concept of free association, which represents an open and receptive awareness where attention “hovers evenly” over psychological experience (Freud 1912/1963).

Many authors have suggested that qualities such as empathy, warmth and compassion are first of all directed towards the self during the practitioner’s personal mindfulness practice. This then allows the practitioner to extend those qualities towards their clients’ experience (Cigolla and Brown 2011, Bruce et al 2010, Shapiro in Hicks & Bien 2008).

“It is a means for transforming both one’s perception and one’s relationship to oneself and others. It allows us to recognize and understand our own feelings, providing insight into these same feelings in others” (Shapiro in Hicks & Bien 2008).

It is further suggested that mindfulness increases the practitioner’s ability to stay with their own difficult emotions which then facilitates the practitioner to say with a client’s difficult emotions (Fulton in Germer et al 2005). Recent research undertaken on social work students suggests that it may also facilitate a decrease in the tendency to take on the negative emotions of others (Beddoe & Murphy 2004).
2.2 Mindfulness training of practitioners

In recent years there has been an increasing interest not only in how mindfulness training of clients can help clients but how mindfulness training of therapists can help both therapists and through them, their clients (Siegel 2010, Germer et al 2005). A randomized controlled trial of seventy-eight medical and pre-medical trainees found that medical trainees after taking an MBSR training showed significant decreases in anxiety and significant increases in empathy compared to a control. The control group were then given the MBSR training and showed similar changes in stress and empathy levels (Shapiro, Schwartz and Bonner 1998). A study of nurses found that after an eight week MBSR course, nurses showed less stress and more empathy and that mindfulness allowed them to “decrease tendencies to take on other’s emotions” (Beddoe and Murphy 2004).

A quantitative study found that counseling students taking a MBSR program reported a significant decrease in negative affect, stress and anxiety and a significant increase in positive affect and self-compassion (Shapiro, Brown & Biegel 2007).

Perhaps one of the most interesting studies was a German study which looked at the impact meditation training had for psychotherapy trainees upon the trainee’s clients. This was not MBSR training per se but Zen Meditation which is similar in many respects. It found that the clients of students who meditated each day for one hour before their clinical work, showed significantly improved outcome compared to a control group. Specifically, these clients reported higher levels of symptom reduction on scales measuring somatization, social insecurity, obsessiveness, anger,
anxiety and psychoticism. They also better understood the process of their own development and the goals of their therapy and were found to be more optimistic about their own progress into the future (Grepmair et al 2007).

2.3 – Mindfulness - Definitions

One of the definitions of mindfulness which is most consistently used in the literature is that of Jon Kabat-Zinn who conceptualizes it as “paying attention in a particular way; on purpose, in the present moment, and non-judgementally” (Kabat-Zinn 1994 p 4). Put another way, “mindfulness is the process of paying attention to what is happening in the moment – both internal (thoughts, bodily sensations) and external stimuli (physical and social environment) – and observing those stimuli without judgment or evaluation, and without assigning meaning to them” (Glomb et al (2011) p 118).

Daniel Siegel defines mindfulness in its most general sense as “waking up from a life on-automatic” (Siegel 2007 p 5). He posits that with mindfulness, the often unconscious flow of energy and information which defines the mind, enters our conscious attention. This allows us both to appreciate our experience, “to walk through the world conscious of our feet on the ground” (Siegel 2007 p 5) but also to exercise some conscious control over the often unconscious top-down processing which is continually going on (involving memory, prediction, habit) which can rob us of the ability to perceive the world just as it is and thus to live consciously and fully.
This top-down processing allows us to categorise experience by comparing it to previous experience giving us the very important ability to predict quickly what might happen next. However, it also means that we are very often not present to our actual moment to moment reality. We are not fully present to our current experience and are continually anticipating danger, either thinking about the past or projecting into the future. By learning just to observe what we are actually experiencing, this moment, without judging or categorizing, we become more alive to our actual experience in the here and now and we can by-pass the mind’s system of filtering (Siegel 2007 p 6). This has implications for our ability as therapists to be fully present for our clients.

“As therapists it is essential that we monitor our internal world for neuroceptive signs of the assessment of danger. When we detect a fight-flight-freeze response in our own body as tension or deflation, as an internal sense of anger, fear or helplessness, we need to do the internal work necessary to bring ourselves out of such distress so that we can return to a state of presence” (Siegel 2007 p 24).

2.4 - Mindfulness – Conceptual models

A large body of literature has demonstrated as detailed above that mindfulness has a beneficial affect on a wide variety of clinical outcomes. It is only recently that researchers have begun to examine the possible mechanisms behind these effects - conceptual models have been developed (Bishop et al (2004), Shapiro, Carlson, Astin and Freedman (2006)). It is argued that mindfulness is composed of two aspects, “self-regulation of attention” and “an orientation that is characterized by
curiosity, openness and acceptance” (Bishop et al 2004). Merely having awareness or observing experience alone is not mindfulness; mindfulness also has the quality of non-judgmental curiosity, of accepting experience as it is (Siegel 2010). When one is mindful, one is paying attention to thoughts, emotions and sensations without reacting to them. The practice is simple but the effects are deceptively complex and sophisticated.

“The more one trains to be mindful, the more one realizes the fleeting nature of things, and the easier things are to accept…After these experiences are accepted, and thoughts are seen as thoughts, instead of reality, then one has a choice in how to respond to them” (Gambrel & Keeling 2010 p 414).

2.5 - Mindfulness – Evidence from Neuroscience

Meta-analysis has recently been published (Holzel et al (2011), Glomb et al (2011) which integrates these conceptual psychological models of mindfulness with evidence from the latest neuroscience research which has focused on the effects of mindfulness practice on changes in brain activity and structure. Holzel et al (2011) detail in their meta-analysis, studies demonstrating neuro-plastic changes which happen as a result of mindfulness in the following areas of the brain – anterior cingulate cortex, insula, temporo-parietal junction, fronto-limbic network and default mode network structures. They suggest that these mechanisms “work synergistically establishing a process of self-regulation” (Holzel et al (2011) p 537). This study and others converge in identifying the central effect of mindfulness to be “improved self-
regulation of thoughts, emotions, behaviours and physiological reactions” (Glomb et al 2011 p 123)

Glomb et al (2011) present a model which suggests:

“two core mental and one core neurobiological processes that are affected by mindfulness:

(a) a decoupling of the self (ie ego) from events, experiences, thoughts and emotions

(b) a decrease in automaticity of mental processes in which past experiences, schemas, and cognitive habits constrain thinking; and

(c) increased awareness and regulation of physiological systems” (Glomb et al (2011) p 128)

(a) Decoupling of the self from experiences, events and mental processes

One of the key mechanisms by which mindfulness affects self-regulation is by creating a separation from the self and experience (thoughts, emotions and sensations). Mindfulness practice trains individuals in meta-awareness, which involves observing what is happening to oneself as if from the perspective of another and without assigning meaning or evaluating. This leads individuals to see themselves as not identical to their thoughts or emotions. If I am observing myself then I am not identical with “myself”. In this way individuals learn that their experience is just that, transitory experience, which may or may not reflect reality but is not identical with it. Davidson (2010) found that the brains of mindfulness
practitioners showed decreased connection between emotion processing and self-relevant processing” (Davidson (2010) p 10).

(b) Decreased use of Automatic Mental Processes

Automaticity provides a certain kind of mental efficiency in that we react quickly to stimuli however it has been shown to diminish present-moment awareness and control (Burgh (1994) in Glomb (2011)). “In a sense, automaticity hijacks the ability to fully experience the present moment” (Glomb et al (2011 p 126). Through mindfulness, individuals are encouraged to stay connected to actual experience in the here and now, without evaluating it, thus preventing automatic reactions. This allows individuals to have more conscious control over how they perceive experience which gives them greater flexibility in how they respond and hence greater self-regulation (Shapiro et al 2006).

(c) Awareness of physiological Regulation

The third way which mindfulness affects self-regulation is through greater awareness of what is happening in the body. Mindfulness practice increases self-reports of body awareness and there is evidence from neuroscience that it modifies brain regions responsible for body awareness (Holzel et al 2011 p 542). There is growing evidence that enhancement of body awareness may improve capacity for affect regulation and empathic responses (Holzel et al 2011). Present-moment awareness of the body’s physiological activation leads to a more balanced regulation of the body’s physiological response system (ie fight/flight, avoidance/approach), reducing stress.
and resulting in an approach dominance in brain activity (Davidson et al 2003). Thus we are more able to approach distressing emotions and thoughts in ourselves and others without initiating an automatic fight or flight response.

2.6 – Empathy and the therapeutic relationship

Empathy has been shown consistently to be a key factor in the development of the therapeutic relationship, predicting good therapeutic outcome. (Hubble, Duncan & Miller, 1999, Lambert & Barley, 2002, Cozolino 2006). Applegate and Shapiro (2005) found that therapist empathy helps clients to learn to tolerate and regulate their own strong feelings. In a meta-analysis, Greenberg et al (2001) found it to be an element essential to treatment effectiveness as clients' and observers' perceptions that therapists understand their clients' internal experiences relate strongly to outcome (Greenberg et al 2001). A German study found therapist empathy mediated improved client outcomes (Grepmaire et al (2007))

2.7 Empathy - Historical perspective

The term empathy has its roots in German Aesthetics where the word “Einfühlung” or “feeling into” was first used by art critic Robert Visher in 1873 to describe the projection of human feelings onto the natural world (Jeffers 2010 p 31). In 1901 Theodor Lipps, a German philosopher concerned with how people understand the mental states of others extended the term “Einfühlung” to interpersonal relations. Freud was an admirer of Lipps by whose work he was influenced (Montag et al (2008)) Freud adopted the term and used it to mean that “we take the producing
person’s psychical state into consideration, put ourselves into it and try to understand it by comparing it with our own” (Freud 1905/1960 p 186). In 1910 Edward Titchener translated the term “Einfühlung” as used by Freud, to “empathy” from the Greek word “empathia”, which means having an active appreciation of another person’s feelings.

The concept of empathy as a therapeutic factor gained in emphasis over the following decades and by the mid-twentieth century had become a focus for counseling psychotherapy research.

2.8 Empathy as a core condition of therapy and a way of being

Carl Rogers was one of the most ardent observers of the therapeutic effect of empathy in psychotherapy which for him was one of three attributes that any therapist must acquire as part of his or her ongoing development, ie empathy, unconditional positive regard and congruence (Rogers 1959). He defined empathy thus:

“to perceive the internal frame of reference of another with accuracy and with the emotional components and meanings which pertain thereto as if one were the person…. If this 'as if' quality is lost, then the state is one of identification” (Rogers, 1959, pp. 210-211.)

This “as if” distinction highlights the multi-dimensional theory of empathy (developed over the last few decades eg Davis 1983) which identifies two separate
mechanisms at work in empathy, ie affective and cognitive. Feeling what the client is feeling is an affective aspect of empathy, recognizing that those feelings are the client’s (the “as if” quality) is a cognitive aspect of empathy.

In “A way of being” (1980), Rogers discusses Gendlin’s (1962) concept of “experiencing” which he states had enriched his earlier conceptualizing of empathy and which he incorporated into his own concept.

“Briefly it is his [Gendlin’s] view that at all times there is going on in the human organism a flow of experiencings to which the individual can turn again and again as a referent in order to discover the meaning of his experience. He [Gendlin] sees empathy as pointing sensitively to the "felt meaning" which the client is experiencing in this particular moment, in order to help him focus on that meaning and to carry it further to its full and uninhibited experiencing” (Rogers (1980) p141)

Rogers states that he has incorporated Gendlin’s view of experiencing “with which I concur” (Rogers (1980) p140). He now views empathy as a process rather than as a state. As well as involving the entering of the other’s private perceptual world, to be empathic therefore also has the meaning for Rogers of becoming sensitive, moment by moment to the changing felt meanings which flow bodily in oneself and in the other person (Rogers 1980 p143).

This process concept of empathy very much corresponds with mindful awareness of the present moment.
Rogers observes that when a person is “perceptively understood” in this way they find themselves coming in closer touch with a wider range of their experiencing. They learn to tune into an “unverbalized visceral flow …… to listen to [the] guts” which can become a huge resource in accurate perception and processing of their thoughts and feelings (Rogers (1980) p158).

Rogers’s later formulation of empathy recognizes therefore the importance of awareness of visceral experience in the moment (affective empathy) which can then be processed to make meaning – (cognitive empathy).

**2.9 Empathy - Mirror Neurons**

In 1992 Researchers at Parma University discovered by accident that Macaque monkeys had neurons which fired not only when they undertook a particular activity but also when they observed another individual perform the same activity (Rizzolatti 2005). These were termed mirror neurons because the firing of the neurons in the observer were seen to mirror, albeit at a lower intensity, the firing of the neurons in the observed. This phenomenon was then discovered to also apply not only to actions, but to feelings and emotions. (Carr et al 2003) This discovery has been hailed by some as being the most significant neurological finding in decades, perhaps rivaling the discovery of DNA in biology (Ramachandran, 2006).

For nearly two decades, the existence of these mirror neurons in humans was speculated on. Their existence was strongly suggested by MRI scans but actual proof was elusive (Rizzolatti 2005). Then in 2010 a study was published providing
the first direct evidence that mirror neurons actually exist in humans and in fact are much more widely distributed throughout the brain than had been anticipated (Mukamel et al 2010).

**2.10 - Cognitive and Affective Empathy**

There seem to be thus, two neural mechanisms for empathy, affective (ie mirror neurons – we literally feel the emotions of the other albeit in smaller dose) and cognitive (information processing of those mirrored feelings) (Rizzolatti 2005). This echoes Roger’s later definition of empathy (cited earlier) whereby gut feelings or “experiencings” are focused on and become a referent for meaning through cognitive processing (Rogers 1980).

A study from 2009 using subjects with brain lesions in the parts of the brain which separately mediate affective and cognitive empathy functions seems to suggest that these two mechanisms are separate but that they combine to give us a full emotional understanding (Shamay-Tssoory et al 2009).

“These results provide strong support for the existence of two behavioural systems for understanding others; an early emotion matching/mirroring system involving the mirror neuron system and a more advanced system for cognitive understanding of mental states…..it may be concluded that these two systems are mediated by two neural networks .. which are triggered and operate independently” (Shamay-Tssoory et al 2009 p 626).
So when a therapist is being empathic with a client, there appear to be two processes going on. In the first, the therapist is not only seeing and listening to the client, but he is actually experiencing on a neural level, a lesser amount of what that client is experiencing. In the second process, the therapist is involved in perspective shifting as he or she cognitively processes both the mirrored neuronal experience in him/her self and the facts of what the client is communicating to him (Kandel 1998). This involves being able to make a clear distinction between self and other and to be able to shift between perspectives. It involves higher processes in the brain than the lower emotional contagion of the motor neuron system. Specifically it involves the executive control functions in the prefrontal cortex ((Lamm, Batson & Decety 2007). This function echoes the “as if” perspective that Rogers highlighted preventing identification (Rogers 1957)

2.11 Empathy and Stress

Lamm, Batson & Decety mapped the brains of participants who were shown pictures of people in painful situations using fMRI (Lamm, Batson & Decety 2007). Participants were asked first to imagine themselves as the people in the picture and then asked to imagine what it must be like for the people in the picture. The fMRI scans came back with very significant differences in the two experiments. When the participants imagined themselves to be the people in the pictures, their stress levels increased resulting in their empathy levels reducing. When they tried to imagine the other person’s experience in the picture, their stress levels reduced and their empathy levels increased (Lamm, Batson & Decety 2007).
These results led the authors to conclude the importance of observers having strong emotional regulation, executive control and self awareness skills as a means of intentionally limiting the unconscious projection of self into the other, thus inhibiting personal distress and facilitating empathy and approach mode processing (rather than reacting aversively).

Bruce et al (2010) suggest that empathy “describes a balanced state that resides between being emotionally withdrawn or cut off from another and being overwhelmed by another’s internal world. The empathic individual opens his or her mind to the influence of another, but does not lose himself or herself in the experience” (Bruce et al 2010 p 10).

2.12 Possible mechanisms for how mindfulness increases empathy

There is a large body of evidence based on recent research (see below) that mindfulness practice potentially increases a person’s capacity for empathy in a number of ways.

Firstly, mindfulness has been shown to result in increased activation of the very parts of the brain involved in resonance and affective empathy (part of the mirror neuron system) (Farb et al (2007), Gard et al (2010)). Accurate observations of the self have been shown to be required for the accurate understanding of others (Decety & Jackson (2004)). Other research shows that certain brain regions (insula and tempero-parietal junction) are impacted both during awareness of one’s own body sensations and during social cognition and empathic responses (Singer et al (2004)).
Secondly, mindfulness improves self-regulation (Holzel et al 2011). This impacts the cognitive aspect of empathy in several ways. Firstly it may allow for the on-going distinction between self and other (the “as if” of Rogers) (Bruce et al 2010, Holzel et al 2011). To be empathic involves perspective taking, one must be able to switch between one’s own perspective and that of the other, without loosing oneself in the experience (Cozolino 2006). Secondly it reduces stress and automatic defensive reactions thus allowing more accurate perception of both one’s own experience and the experience of others. Research carried out by Davidson et al (2003) was able to demonstrate concrete brain changes after an eight week mindfulness training, specifically increases in left sided activation which is associated with an approach mode of brain functioning and improved adaptive responding to negative or stressful events.
Chapter 3 – Methodology for Study

3.1 Sample

A convenience sample of 18 Master’s level psychotherapy students were asked to participate in the study and were self-assigned to either an intervention group who would participate in an eight week mindfulness course or a control group who would not participate in a mindfulness course.

3.2 Mixed Method Research

This study used a triangulated mixed method design to assess whether an MBCT course would have an influence on the mindfulness, stress and empathy levels of psychotherapy students. A mixed method design may be defined as “the collection or analysis of both quantitative and qualitative data in a single study in which the data are collected concurrently or sequentially, are given a priority, and involve the integration of the data at one or more stages in the process of research” (Creswell, Plano Clark, Guttmann & Hanson, 2003, p 212). When both quantitative and qualitative methods are used, researchers can enrich their data in ways which a single form of data will not allow (Hanson et al 2007, Tashakkori & Teddlie, 1998). In a mixed method study, “data analysis and integration may occur by analysing the data separately, by transforming them or by connecting the analyses in some way” (Hanson et al 2007 p 212). In this case, a triangulated design was used, whereby the two sets of data were analysed separately and the researcher attempted to merge the
data together in the analysis. It allowed as in this case, for results obtained from precise, instrument based measurements, “to be augmented by contextual, field-based information” (Hanson et al 2007 p224).

In this study, quantitative data in the form of scores on three different measures was collected and analysed pre and post training for both an intervention and a control group. The intervention group then took part in a focus group discussion, which provided the qualitative data, where they discussed their subjective experience of the course and what effects it might or might not have had on their ability to be therapists. The focus group allowed for the use of open-ended questions intended to elicit a more in-depth, detailed and subjective exploration of the participant’s experience and its effects, if any. The focus group was audio recorded, transcribed verbatim and included in the dataset. This data was analysed using theoretical thematic analysis which was carried out in accordance with the model set out in Braun and Clarke (2006). In theoretical thematic analysis as opposed to inductive thematic analysis the questions and analysis are directed towards specific research questions. Although the two questions put to participants in the discussion were open ended, the researcher nevertheless did have a particular focus in the coding of themes which had specific relevance for the research question. So, for example, themes involving participants’ experience of having difficulty getting started with mindfulness practice were not followed through even though this theme was one which most participants spoke about.

Only two open ended questions were put directly to participants.

1. What was your experience of this course?
2. What do you think were the implications, positive or negative, of taking this course in regards to your ability to be a therapist?

3.3 Procedure

Participants in the intervention group were asked to attend two, one and a half hour workshops and were given an MBCT course book to follow at home for eight weeks. At the beginning of the first workshop, participants were asked to fill out three questionnaires. The control group were asked to fill out the same questionnaires at the same time.

The researcher-led workshops introduced the participants to the concept of mindfulness and to the eight-week course which they were asked to follow. During the workshops participants were given a week by week outline of the course and were introduced to some of the mindfulness exercises contained in the course, including mindful eating, sitting mindful breathing and the body scan. Participants were also introduced to the concept of the use of mindfulness in daily life, becoming mindful while preparing a meal or brushing one’s teeth for example.

At the end of the eight-week mindfulness course, participants of the course were again asked to fill out three questionnaires. The control group were also asked out to fill out three questionnaires during that week.

One month after the mindfulness course had finished, participants of the course attended a focus group discussion.
3.4 The course book

Participants followed an eight week MBCT course in book form “Mindfulness, a practical guide to finding peace in a frantic world” by Oxford University Psychologist Professor Mark Williams and Dr Danny Penman. Professor Williams is one of the premier researchers in the field of mindfulness worldwide and is one of the co-founders of Mindfulness Based Cognitive Therapy (MBCT).

The first four weeks of the course focus on learning to pay open-hearted non-judgemental attention to aspects of the internal and external worlds. Participants are introduced to the various formal practices of mindfulness such as the body scan, mindful awareness of the breath, mindful awareness of sounds and thoughts and mindful movement which are generally done once a day for about 30 minutes. There is a CD with the formal mindfulness practices which accompanies the book.

The body scan meditation involves learning to bring attention to particular parts of the body in sequence and at will without judging or analyzing what one is experiencing, simply noticing. When one becomes aware that the mind is wandering into thought, one is instructed to gently, without judgement, bring the mind back to focusing on whatever part of the body one is focusing on. “This helps you to see, ever more clearly, when the mind has begun to wander away by itself, so that you gradually learn to ‘taste’ the difference between the thinking mind and the sensing mind” (William & Penman 2011, p 58)

The breathing meditation involves bringing one’s full focus onto the breath as it comes in and out, again noticing when the mind wanders and bringing it gently back
onto focusing on the breath. “This stabilises the mind and helps you to see what unfolds when you focus your full awareness on just one thing at a time” (Williams & Penman 2011 p 58)

The sounds and thought meditation broadens the focus from the breath onto sounds in the room which come and go and then onto one’s own thoughts as they come and go. According to the Williams and Penman this helps one to see thoughts as mental events that come and go just like sounds. It helps one to take a “decentered stance to thoughts and feelings”, so that one learns to dis-identify from the thinking self. (Williams & Penman 2011 p 59)

The mindful movement practices are based on gentle Hatha yoga and help the process of body awareness. “You’ll gradually learn that the body is exquisitely sensitive to emerging unsettling feelings – ……. It’s an early warning system of profound power and significance which allows you to head off problems before they gain unstoppable momentum” (Williams & Penman 2011 p 59).

The next four weeks of the course build on these basic practices and give more practical ways to see thoughts as mental events and also help to cultivate an attitude of acceptance and compassion towards oneself and others.

Participants are also introduced throughout the course book to informal mindfulness practices which involve being mindful to one’s daily activities, for example brushing of teeth or showering and to notice and be mindful of habit activities such as sitting
in a particular chair. Participants are encouraged to change these habits and observe what happens.

3.5 Instruments

Both control and intervention groups were asked to fill out pre and post-experiment questionnaires which tested levels of mindfulness (Mindful Attention Awareness Scale), stress (Perceived Stress Scale) and empathy (Interpersonal Reactivity Index).

Mindful Attention Awareness Scale (MAAS)
The MAAS is a 15 item scale designed to assess open and receptive awareness of what is happening in the present. It has strong psychometric properties - the researchers who developed the MAAS found that higher scores on the MAAS predict a variety of well-being constructs and that it is associated with enhanced awareness of internal states. (Brown & Ryan 2003) MAAS respondents indicate how often they have the experience which is described in each of 15 statements using a 6 point Likert Scale from 1 (almost always) to 6 (almost never). Higher scores reflect mindfulness.

The Perceived Stress Scale (PSS)
The Perceived Stress Scale (PSS) is a 10 item scale (Cohen & Williamson 1988). It is the most widely used instrument for measuring perception of stress, specifically a measure of the degree to which situations in one’s life are perceived to be stressful in the past month (Cohen, Kamarck & Mermelstein 1983 p 394).
The Interpersonal Reactivity Index (IRI)

The Interpersonal Reactivity Index (IRI) is a 28 item questionnaire measuring four dimensions of empathy on a five point Likert Scale. The four scales represent the distinctions between the cognitive and affective domains. The four scales are Perspective Taking, Fantasy Scale, Personal Distress and Empathic Concern. The scales are not marked cumulatively to get an overall score. The perspective-taking subscale assesses the tendency to adopt the psychological viewpoint of others. The Fantasy scale measures tendencies towards identification with fictional characters. The empathic concern subscale assesses "other-oriented" feelings of sympathy and concern for others who are undergoing negative experience. The personal distress subscale measures "self-oriented" feelings of anxiety and unease when observing others undergoing negative experience. (Davis 1980)

3.6 Ethics

This thesis has been reviewed and approved by the research ethics committee of Dublin Business School.

The ethical guidelines of the IACP in relation to confidentiality and informed consent were followed. Informed consent was obtained from all participants of this study for both the qualitative and quantitative components of the study. Participants were made aware of the purpose of the study, how the information they gave would be used and who had access to it. They were also informed that confidentiality would be upheld regarding information. They were informed that they were free to withdraw from the study at any time.
Questionnaire respondents were given an identifying code and this was used to identify participants in the analysis of the data, thus ensuring participant privacy.

Participants of the focus group were informed prior to obtaining consent that sections of the discussion would be used in the form of direct quotation in the body of the discussion section of this study. Participants were not identified in any way in the quoting of sections of the interview and only forename initials were used in the transcribing of the discussion.

All participants of this study were fellow students of the researcher, a fact which had potential to bias responses in the direction of favourable responses. In order to minimize bias as much as possible, participants were encouraged to be as honest as possible in their responses to questionnaires and in expressing their opinions in the focus group discussion.
4.1 Quantitative Data

Paired t-tests compared pre and post-training course scores on the Perceived Stress Scale (PSS), Mindfulness Attention Awareness Scale (MAAS) and Interpersonal Reactivity Index (IRI) and these were compared with paired t-tests taken at the same time for the control group. Analyses were run in SPSS Version 18.

Seven of the nine participants in the intervention group were women, two were men. The mean age of the intervention group was 39.8 years. They ranged in age from 29 to 54 years. Eight of the nine control group were women with one man. The mean age of the control group was 33.4 years. They ranged in age from 27 to 48 years.

Because there was a small but potentially significant difference in the mean ages between the intervention and control groups (ie intervention mean 39.8 years, control mean 33.4 years) the paired t-test data was adjusted using the General Linear Model for repeated measurements controlled for both group and age (to control for confounding variables, ie differences between conditions other than the independent variable, ie the MBCT Course). This showed that there was no significance for the factor of age across all instruments pre and post-test but there was a significance for group in the Mindfulness Attention Awareness Scale (MAAS) (p =<0.01), the Perceived Stress Scale (PSS) (p =<0.01) and in two dimensions of the Interpersonal Reactivity Index (IRI) – Perspective Taking (p = <0.01) and Personal Distress (P=<=0.05)
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The intervention group showed a highly significant favourable upward trend in MAAS (p = <0.01), PSS (p = <0.01) and in the Perspective taking dimension of the IRI (p = <0.01) and a significant favourable downward trend in the Personal Distress dimension of the IRI (p = <0.05). They showed a favourable upward trend in the empathic concern dimension of the IRI but this was not significant. They showed no change in the fantasy scale dimension of the IRI. The control group showed no significant change in any instrument.

The control group showed small favourable upward trends in MAAS and in the Perspective Taking and Empathic Concern dimensions of the IRI but these were not significant. They also showed a small favourable downward trend in the Personal Distress scale dimension of the IRI but this was also not significant. They showed no difference in the Fantasy Scale of the IRI or in the Perceived Stress Scale (PSS).
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Graph

Mean Score

intervention  control

group

Score

intervention  control

group

Notes

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intervention
control

fantasy scale pre
fantasy scale post

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- Intervention
- Control

**Score:**
- Personal Distress Scale Pre
- Personal Distress Scale Post

**Error bars:** 95% CI

**Graph:**

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**Scores:**

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  - Post: 15

- **Empathic Concern Scale:**
  - Pre: 30
  - Post: 20

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**Graph:**

- Score vs. Group

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**Graph:**

- Score vs. Group
CORRELATIONS

Mindfulness and Perspective Taking
A Spearman's Rank Order correlation was run to determine the relationship between Mindfulness and Perspective taking scores. There was a strong, positive correlation, which was statistically highly significant ($r = .913, P = < .001$)

Mindfulness and Personal Distress
A Spearman’s Rank Order correlation was run to determine the relationship between Mindfulness and Personal Distress scores. There was a strong negative correlation which was statistically significant ($r = -.536, P = < 0.01$)

Perspective Taking and Personal Distress
A Spearman's Rank Order correlation was run to determine the relationship between Perspective taking and Personal Distress scores. There was a negative correlation, which was statistically significant ($r = -.603, P = < .008$)

Perceived Stress and Personal Distress
Pearson product moment correlation co-efficients were computed between the Perceived Stress Scale (PPS) and Personal Distress dimension of the Inter-relational reactivity index (IRI) pre-test scores. There was a strong, positive correlation between them, which was statistically significant ($r = .968, P < 0.001$) for both the intervention and control groups.
4.2 Qualitative Data

Thematic analysis of the participants’ experiences in the focus group discussion resulted in five key themes being identified. According to Braun and Clarke (2006), “the ‘keyness’ of a theme is not necessarily dependent on quantifiable measures – but in terms of whether it captures something important in relation to the overall research question” (Braun & Clarke (2006) p 87). The qualitative element in this study was undertaken with a view to elaborating on the quantitative data, which had a specific focus, namely an examination of the effect of an eight week mindfulness course on mindfulness, empathy and stress levels in a group of Master’s level psychotherapy trainees. The thematic analysis in this study is thus more thematical in approach than inductive in that it is driven by specific research questions and seeks to elaborate on specific elements of participant’s experience. (Braun and Clarke (2006) p 88) In this context the following themes were identified:

1. mindfulness being an ongoing resource to manage stress,
2. an increase in ability to tolerate being alone with difficult emotions,
3. an increase of awareness of automaticity,
4. an increase in self and other body awareness and how that effects attunement with clients, and
5. an increase in ability to differentiate between affect in self and in the other.
Mindfulness as an on-going resource to manage stress

Participants on the course all reported that they felt more in control of their stress levels after completing the course. All were continuing to engage in mindfulness at the time of the focus group, one month after completing the course. For some this involved a daily formal practice, for others it involved using mindfulness at different periods during the day, particularly at times of stress, to calm down. Most reported using the 3 minute mindfulness exercise before or after seeing clients.

“Sometimes, before I sit with clients, I’ll just listen to one of the exercises on my iphone, usually the 3 minute one – I find it just grounds me before I start.”

Most reported using the CD at night-time to facilitate relaxation prior to sleep.

“I’m using it to ground myself and to bring myself down into my body so that I can go to sleep so it’s very practical”

Many participants noted that they seemed to be much more aware of potential stressors at an earlier stage which enabled them to engage with the stressor before it triggered an automatic reaction.

“I feel I meet the stress at a lower level, I’m aware of it earlier, do you know, a few people have said to me that they have noticed that I am calmer”
An increase in ability to be alone with difficult emotions

Participants experienced that mindfulness helped them to be alone and to sit with difficult emotions rather than blocking them out. This is in line with Davidson’s research which showed that mindfulness results in an approach mode of brain functioning (Davidson 2003). One participant experienced a relationship breakup and was finding being alone very difficult. This participant described mindfulness as both “a safe sort of place but also a skill”.

“Because the issue about Christmas for me was about being alone, not being in the relationship anymore so doing this brought me further into that but in a safe way that I could actually be on my own and not feel lonely so it trained me back in”

Another participant noted that this increased level of tolerance of being alone was feeding into her ability to be in silence with clients.

“I feel much more comfortable now to just leave the client their space, it’s like I am calmer and I’m more used to being in silence with myself as well and that feeds in.”

An increase in awareness of automaticity

Many of the participants noted that the part of the course which impacted most on them was not, in fact, the formal mindfulness practices, but the “habit breakers” exercises which they found deeply enriching. One participant noted:
“I’ve become so much more aware of what I am doing, and mixing it up a bit, having a fresh view or a different perspective – it makes everyday life so much more interesting”

Another participant became aware that he chose to sit in the same place everyday at lunch in his staff canteen. He undertook to mindfully sit somewhere else and became aware of just how different he felt sitting in this different position.

“There are only two tables at lunch and I was automatically going over to sit at the same table I always do and I thought “Why do you always go for that table?”. So I just sat at the other table and I was really surprised, it made a big difference.”

Another client described how because she was now more aware of experience and stressors she was able to prevent the automatic reactions which were a feature of her life in the past.

“I was thinking there are times of mine, particularly when I’ve just finished a (mindfulness) session that I’m almost watching my life, you know, I feel like there is a protective bubble around me and while these stressors are coming at me they just kind of bounce off me, it’s like “yeah fine, I can see that is a stressor”, but they just seem to be going away, I’m not automatically reacting so they are not being absorbed, they are bouncing off me”
An increase in body awareness and how that affects attunement with clients

Most participants noted that they were aware of an increase in awareness of what was going on in their own bodies. They were also much more aware of picking up in their own bodies what was going on in their clients’ bodies. This, for some participants, meant that they were being impacted more than before by their clients’ experience. They were aware of picking up more of the clients’ experience as a bodily felt sense.

“I’m picking up so much more on a body level and in that there is a greater impact on me that I have to manage which is why I need more mindfulness, I find I need it everyday to help me regulate that”

Another participant noted that her sense of attuning to her clients had intensified greatly.

“I think I’m more sensitive physically to my clients but I am aware that I have to focus on protecting myself inside of it, do you know what I mean? I’m more sensitive, like counter transference is much stronger now”

An increase in ability to differentiate between affect in self and in the other

Many participants found that they have become increasingly aware of which internal feelings are their own and which have come from the client.
“Even today I was with a client earlier on and I went into work straight after and my friend was saying “are you alright?” and I was “Yeah Yeah”, like I knew what it was, the client was quite anxious and I was still feeling the remnants of that, like, “I’ll be okay in a minute”. It’s like I knew that’s what I was after picking up, I knew that is what it was”

This participant stated that the body scan had helped her in this process and had given her an ability to have some control over it.

“I find with that body scan I have become more aware of what is mine and what I am carrying for someone else and I’m learning to kind of park that”.

Another participant spoke of having a client who is very aggressive and attacking and that being mindful seemed to help him, as a therapist, to sit back and figure out the at times intense feelings he was experiencing.

“One client who tends to be very aggressive comes in, you know shooting on all cylinders and it can be just very attacking and arresting and it really helped me to be able to sit back and see, Okay, what am I feeling here? Is this his or mine?.”
Chapter 5 – Discussion and Conclusion

5.1 – Discussion

As outlined in the methods section, this study used a triangulated mixed method design to combine the rigorous measurement of actual change, which is provided by the analysis of the quantitative data, with the more subjective, but richer qualitative data available from the analysis of the focus group interview. The quantitative and qualitative data were analysed separately and the qualitative data was used to augment the quantitative data, which was prioritised, in the discussion. In this way a fuller picture of the effects of the mindfulness course on this group of psychotherapy trainees has been possible. This method is referred to in Creswell et al (2007) as a “concurrent triangulation method design” as it involves a “triangulation of data collection, separate data analysis, and the integration of databases at the interpretation or discussion stage of the report….and gave priority to quantitative research” (Creswell et al 2007 p 162).

The quantitative results of this study show that an eight-week mindfulness training course significantly affects Master’s level psychotherapy trainees in a number of positive ways:

1. Mindful awareness is significantly increased as measured by the Mindfulness Attention Awareness Scale (MAAS) (p = <0.01).
2. Stress levels are significantly reduced as measured by the Perceived Stress Scale (PSS) (p = <0.01)
3. Empathy levels are significantly increased in two of the four Interpersonal Reactivity Index (IRI) subscales, Perspective taking (significant positive increase) \( (p = <0.01) \) and Personal Distress (significant positive decrease) \( (p = <0.05) \).

I would now like to further look at these three findings from the quantitative data and expand on them, incorporating the findings from the qualitative data from the focus group interviews.

5.1.2 Mindful Awareness is significantly increased

As expected, there was a significant increase after the eight-week course in the levels of mindful awareness in the intervention group \( (p = <0.01) \). The control group showed a small increase in mindful awareness but it was not significant. The fact that the control group had a small increase in mindfulness may represent the impact of ongoing activities of the MA in Psychotherapy course on both the control and intervention groups, for example, personal therapy and group process.

Several course participants mentioned that they experienced that heightened mindful awareness as a result of the mindfulness course had an affect on other aspects of the course for them, increasing the impact of those other aspects.

“There are lots of other things on this course that bring up your awareness as well, like supervision and personal therapy but I definitely think the mindfulness course has enhanced those other processes.”
So, it may be that both the intervention group and the control group had an increase in their mindfulness levels as a result of aspects of their therapy training (e.g., process group, personal therapy, and supervision) but that the intervention group had much higher levels of increase due to the effects of the mindfulness training course.

Participants in the mindfulness course also reported being much more aware of how much of their lives are lived “on automatic”, how many of the things they do are the result of unconscious habitual action or re-action. Several participants noted that this heightened awareness affected how they are with clients. They felt more fully present, less likely to be distracted by habitual patterns of reacting to what clients were saying. One participant noted:

“I feel more present to myself and that helps me to be more present to my clients because I’m not as anxious or distracted by what comes up, I’m not running from A to B to C with clients, I’m just more able to be there”

5.1.2 Stress Levels are significantly reduced

The results of the quantitative study show that the stress levels of participants of the mindfulness course reduced significantly (p < 0.01). Both the Perceived Stress Scale (p < 0.01) and the Personal Distress subscale of the IRI (p < 0.05) showed significant reductions.
Analysis in SPSS showed that there was a significant correlation between the Perceived Stress and Personal Distress (p = <0.001) scales. There was also a significant correlation between both Mindfulness and the Perceived Stress Scale (p = <0.01) and between Mindfulness and the Personal Distress subscale of the IRI (p = <0.05).

The Perceived Stress Scale measures how unpredictable, uncontrollable and overloaded respondents find their lives during the last month. The Personal Distress scale is a subscale of the IRI which measures distinct dimensions of empathy and measures the tendency to experience personal distress in response to witnessing distress in others. The high correlation in pre-test levels of the Perceived Stress and Personal Distress scales (p = <0.001) found in this study might suggest a number of things. It could suggest that when student therapists have high levels of perceived stress (feelings of their lives being unpredictable, uncontrollable and overloaded) they may be disposed to experience personal distress in the face of distress in others (as measured by the IRI). However, it could also mean that when student therapists are exposed to distressing experience of others (for example their clients) they have a tendency to be more stressed (PSS) in general. Further research could usefully explore the links between these two factors and establish if (a) the two are mutually interacting or (b) if one factor predisposes a person to the other factor or (c) if there might be a possible third as yet unknown factor which predisposes a person to both perceived stress and personal distress.
Participants in the focus group reported that mindfulness gave them a much greater sense of awareness and therefore control over their stress levels allowing them to experience less personal distress when with clients.

One participant observed:

“I think the stresses of this course are really overwhelming at times but the mindfulness has given me a tool to deal with it, to pull myself back from the brink, I see it (ie stress) building much earlier and that affects how I am with clients because I’m more aware of what is mine and what is theirs”

5.1.3 Empathy levels are significantly increased

The above participant’s experience points to another significant outcome of this study and that is that both higher Mindfulness scores on the MAAS and lower scores on the Personal Distress subscale of the IRI are correlated with higher levels of the subscale of Perspective Taking of the IRI empathy scale. This may suggest that by increasing mindfulness, personal distress levels are reduced and this may allow for an increase in the perspective taking aspect of empathy. Further studies are needed to examine this further but this interpretation would be in line with research outlined earlier in the literature review by Lamm, Batson & Decety 2007 whereby participants in a study who were shown video of people undergoing unpleasant experience had higher empathy levels when they were able to lower their personal distress levels. It also is in line with research by Davidson et al 2003, again outlined in the literature review, which showed that mindfulness lowered stress and resulted in an approach mode in brain activity.
As has been outlined in the Literature Review, empathy is increasingly seen as a multi-dimensional construct (Davis 1983). To recap, evidence from both social psychology and cognitive neuroscience has shown that empathy involves both bottom up, affective information processing (mirror neurons, feeling what the other is feeling) and top down information processing (cognitive processing of this information including the ability to switch perspectives with the other while maintaining an awareness of one’s own separate reality).

The IRI measures four aspects of empathy, two cognitive aspects, (Perspective Taking and Fantasy Scale) and two affective aspects (Empathic Concern and Personal Distress). Since IRI subscales are independent, change in any dimension may have an impact on empathy levels. (Davis 1983)

The paired t tests found that Perspective Taking levels of participants had favourably significantly increased after the course (p = <0.01) and that Personal Distress levels had favourably significantly decreased (p = <0.05). Birnie et al (2010) who investigated the effects of an eight week MBSR on empathy found similar changes in Perspective Taking and Personal Distress.

The pre-test scores of Perspective Taking and Personal Distress in the present study were significantly negatively correlated ($r = -.603, P = <.008$) so that the higher the level of Perspective Taking, the lower the level of Personal Distress. (or the lower the level of Personal Distress the higher the level of Perspective Taking).
There was also correlation found between pre-test scores for Mindfulness and Perspective Taking \( (r = .913, P = <0.001) \) and a negative correlation found between Mindfulness and Personal Distress \( (r = -0.536, P = <0.01) \). This suggests that there is a significant relationship between Mindfulness and both Perspective Taking and Personal Distress.

This data is corroborated by the data from the focus group interview where participants reported having a greater sense of self/client affect discrimination (Perspective Taking) and reported feeling less personally triggered when with clients, more able to be present (Personal Distress).

The t-tests showed a small positive change in levels of Empathic Concern post intervention but the levels were not significant. There was no correlation between Mindfulness and Empathic Concern found. There are several possibilities for this result and the qualitative data may thrown some light on these findings.

In the focus group interview, most participants reported that they felt a noticeable increase of awareness of their own internal body experience and were also aware of picking up in their own bodies a sense of what the client might be feeling (affective empathy). One participant noted:

“It’s like I’m just so much more aware of what is going on in my own body when I’m with clients and sometimes it’s like I get a sense of what they are feeling but it’s in my body.”
This would be in line with previous research which shows that mindfulness can result in increased activation of the very parts of the brain involved in resonance and affective empathy (part of the mirror neuron system) (Farb et al (2007), Gard et al (2010)). (See Literature Review)

One would therefore expect to have seen a corresponding favourable change in the present study in the affective components of the IRI, namely a reduction in Personal Distress and an increase in Empathic Concern. There was indeed a significant favourable decrease in Personal Distress (p = <0.05) but there was only a small and not significant favourable increase in Empathic Concern. Several previous studies have similarly found little increase in Empathic Concern (IRI) (Birnie 2010, Galatino et al 2005). There are several possible explanations for this result.

Firstly, it is possible that the baseline Empathic Concern scores for both control and intervention study participants were already higher than mean. People who choose to train as psychotherapists may have higher levels of Empathic Concern which measures "other-oriented" feelings of sympathy and concern for others who are undergoing negative experience. This study did not compare baseline scores with available norm means and this might be usefully explored in further studies. There was therefore a potential “ceiling effect” on the Empathic Concern scale in both the intervention and control groups. It is possible that there was not enough measurable space left on this scale to record improvement. This is in line with the findings of Safarzadeh & Wallmark (2011) who note this “ceiling effect” in this particular measure of the IRI in their own study.
Secondly, there may be an issue of construct validity, namely a discrepancy between the type of empathy being recorded in the Empathic Concern subscale of the IRI and the type of empathy being cultivated by mindfulness. Safarzadeh & Wallmark note that the Empathic Concern subscale of the IRI is highly correlated with General Emotional Reactivity (Davis 1983) “whereas the empathy cultivated in meditation may be less reactive but more aware and controlled.” (Safarzadeh & Wallmark 2011 p 56).

In addition, although Davis (1983) presents both Empathic Concern and Personal Distress as subscales measuring affective empathy, neither scale has any questions which relate in any direct way to body awareness. (eg “I would describe myself as a pretty soft-hearted person or “I am often quite touched by things that I see happen”).

In the focus group discussion, participants all described having a noticeable increase in felt or body sense which many described as having an effect on their ability to resonate with clients’ feelings. One participant described how this increased felt sense or body awareness has helped her to be increasingly present with one particular client.

“I find I’m more aware of what’s going on in me, in my body, and I think that gives me space to become aware when I’m with that client of what I’m picking up from her and that was very badly needed by me because I used to feel so anxious when I was with her but that was what she was feeling.”
A third possible explanation could be that mindfulness does not significantly affect Empathic Concern as defined by Davis or that it does not affect it in an eight-week period.

There was no significant change in the levels of the Fantasy Scale in either the intervention or control groups. The Fantasy Scale measures identification with fictional characters and the data from this study suggests that it is not affected by mindfulness.

5.2 – Limitations of this study and recommendations for further research

There are a number of limitations to the present study.

1. The sample was not randomised. Participants self-selected whether to take part in the mindfulness course or to be in the control group. This may have affected the result in that those choosing to do mindfulness may have been individuals with higher motivation to change.

2. The numbers of participants in the study was small with only nine people in each group. This leads to low statistical power.

3. The study did not record the number of hours each participant spent in mindfulness practice
4. The measures used in the quantitative data in this study are all based on self-reports which may be subject to bias, a phenomenon which is well documented (Choi & Pak 2005). A potential ceiling effect bias is discussed in the previous section on empathic concern. Batson (2011) questions the validity of the IRI and other self-report questionnaires measuring empathy. “To express doubt about the validity of self-report questionnaire measures of dispositional empathy is not to express doubt that individual differences affect the experience of empathy ….My doubt is about whether self-report questionnaires validly reflect these differences.” (Batson 2011 p 56).

5. Allied to this is the gap in content which this study points to which is the lack of any measurement in the IRI of body awareness. In the focus group discussion, participants reported a noticeable increase in body awareness. This aspect of empathy is highlighted by Glomb et al (2011) and by Holzel et al (2011), studies which integrate conceptual psychological models of mindfulness with evidence from the latest neuroscience research which has focused on the effects of mindfulness practice on changes in brain activity and structure (see literature review). However, there does not appear to be any measurement of this physiological aspect of empathy in the IRI. Although Empathic Concern is presented by Davis (1980) as a measure of affective empathy, it does not measure this body awareness. In light of the latest evidence from neuroscience, including that concerning Mirror Neurons (Rizzolatti 2005) this is regrettable.
This study has drawn attention to lack of a measure in the IRI of an aspect of affective empathy which it is suggested is generated by mindfulness. It would be useful for future research to develop a subscale of the IRI which reflects the physiological or body awareness which has been highlighted as significant in the most recent research (Holzel et al 2011) and Glomb et al (2011) and which emerged in the focus group discussion in this study. The self-reported data generated from such a sub-scale could then usefully be examined for correlation with data from existing research which shows actual brain changes generated by mindfulness such as that detailed in Holzel et al (2011) or Glomb et al (2011). Several very recent studies have examined correlations between various empathy questionnaires, including the IRI and specific brain activation ((Gazzola, Aziz-Sadeh & Keysers (2006), Lamm, Bateson, Decety (2007)). However, the questionnaires did not include a measure of body awareness. This kind of research was beyond the scope of this study but would advance knowledge of this area considerably.

5.3 - Conclusions

In the introduction I asked how can student therapists learn to sit with others who are suffering, to feel their pain and understand with compassion how things must be for them, while at the same time manage to soothe the suffering that may emerge in themselves through this process. This study suggests that mindfulness training may be an effective way to do this. The study suggests that mindfulness may be a valuable addition to professional psychotherapy training and lends support to the calls for mindfulness to be included on professional psychotherapy training courses (Bruce et al 2010, Siegel 2010, Christopher & Maris 2010, Grepmair et al 2008, Germer et al 2005) as a way of fostering empathy and managing stress. The students
in this study who participated in mindfulness training showed increases in empathy and lowered levels of stress and personal distress. As Germer et al remark

“Mindfulness…focuses our attention on the task at hand. When we are mindful, our attention is not entangled in the past or future, and we are not judging or rejecting what is occurring at the moment. We are present. This kind of attention generates energy, clear-headedness and joy. Fortunately, it is a skill that can be cultivated by anyone” (Germer et al 2005 p 5).
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Appendix A – Mindfulness Attention Awareness Scale (MAAS)

Day-to-Day Experiences

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

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<th>3</th>
<th>4</th>
<th>5</th>
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<tr>
<td>1</td>
<td>Almost Always</td>
<td>Very Frequently</td>
<td>Somewhat Frequently</td>
<td>Somewhat Infrequently</td>
<td>Very Infrequently</td>
<td>Almost Never</td>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tr>
<td>I could be experiencing some emotion and not be conscious of it until some time later.</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I break or spill things because of carelessness, not paying attention, or thinking of something else.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I find it difficult to stay focused on what's happening in the present.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I tend not to notice feelings of physical tension or discomfort until they really grab my attention.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>I forget a person's name almost as soon as I've been told it for the first time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>It seems I am “running on automatic,” without much awareness of what I'm doing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>I rush through activities without being really attentive to them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>I do jobs or tasks automatically, without being aware of what I'm doing.</td>
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<td>3</td>
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<td>I find myself listening to someone with one ear, doing something else at the same time.</td>
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<td>2</td>
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<td>6</td>
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<tr>
<td></td>
<td>1 Almost Always</td>
<td>2 Very Frequently</td>
<td>3 Somewhat Frequently</td>
<td>4 Somewhat Infrequently</td>
<td>5 Very Infrequently</td>
<td>6 Almost Never</td>
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<td>I drive places on ‘automatic pilot’ and then wonder why I went there.</td>
<td>1 2 3 4 5 6</td>
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<td></td>
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<tr>
<td>I find myself preoccupied with the future or the past.</td>
<td>1 2 3 4 5 6</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>I find myself doing things without paying attention.</td>
<td>1 2 3 4 5 6</td>
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<tr>
<td>I snack without being aware that I’m eating.</td>
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Appendix B – Perceived Stress Scale (PSS)

Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling how often you felt or thought a certain way.

Name ____________________________________________________________ Date __________

Age ________ Gender (Circle): M F Other ________________________________

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly? .................................. 0 1 2 3 4

2. In the last month, how often have you felt that you were unable to control the important things in your life? .................................. 0 1 2 3 4

3. In the last month, how often have you felt nervous and “stressed”? .......... 0 1 2 3 4

4. In the last month, how often have you felt confident about your ability to handle your personal problems? .................................. 0 1 2 3 4

5. In the last month, how often have you felt that things were going your way? .................................. 0 1 2 3 4

6. In the last month, how often have you found that you could not cope with all the things that you had to do? .................................. 0 1 2 3 4

7. In the last month, how often have you been able to control irritations in your life? .................................. 0 1 2 3 4

8. In the last month, how often have you felt that you were on top of things? .. 0 1 2 3 4

9. In the last month, how often have you been angered because of things that were outside of your control? .................................. 0 1 2 3 4

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? ...................... 0 1 2 3 4

Please feel free to use the Perceived Stress Scale for your research.

Mind Garden, Inc.
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www.mindgarden.com

References
Appendix C – Interpersonal Reactivity Index (IRI)

INTERPERSONAL REACTIVITY INDEX

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in the letter on the answer sheet next to the item number. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

ANSWER SCALE:

A  B  C  D  E
DOES NOT DESCRIBE ME DESCRIBES ME
WELL       VERY
WELL

1. I daydream and fantasize, with some regularity, about things that might happen to me. (FS)

2. I often have tender, concerned feelings for people less fortunate than me. (EC)

3. I sometimes find it difficult to see things from the "other guy's" point of view. (PT) (-)

4. Sometimes I don't feel very sorry for other people when they are having problems. (EC) (-)

5. I really get involved with the feelings of the characters in a novel. (FS)

6. In emergency situations, I feel apprehensive and ill-at-ease. (PD)

7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it. (FS) (-)

8. I try to look at everybody's side of a disagreement before I make a decision. (PT)

9. When I see someone being taken advantage of, I feel kind of protective towards them. (EC)

10. I sometimes feel helpless when I am in the middle of a very emotional situation. (PD)
11. I sometimes try to understand my friends better by imagining how things look from their perspective. (PT)

12. Becoming extremely involved in a good book or movie is somewhat rare for me. (FS) (-)

13. When I see someone get hurt, I tend to remain calm. (PD) (-)

14. Other people's misfortunes do not usually disturb me a great deal. (EC) (-)

15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (PT) (-)

16. After seeing a play or movie, I have felt as though I were one of the characters. (FS)

17. Being in a tense emotional situation scares me. (PD)

18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (EC) (-)

19. I am usually pretty effective in dealing with emergencies. (PD) (-)

20. I am often quite touched by things that I see happen. (EC)

21. I believe that there are two sides to every question and try to look at them both. (PT)

22. I would describe myself as a pretty soft-hearted person. (EC)

23. When I watch a good movie, I can very easily put myself in the place of a leading character. (FS)

24. I tend to lose control during emergencies. (PD)

25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while. (PT)

26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me. (FS)

27. When I see someone who badly needs help in an emergency, I go to pieces. (PD)
28. Before criticizing somebody, I try to imagine how I would feel if I were in their place. (PT)

NOTE: 
(-) denotes item to be scored in reverse fashion
PT = perspective-taking scale
FS = fantasy scale
EC = empathic concern scale
PD = personal distress scale

A = 0
B = 1
C = 2
D = 3
E = 4

Except for reversed-scored items, which are scored:

A = 4
B = 3
C = 2
D = 1
E = 0
Mindfulness (MAAS) – Intervention Group

### Multivariate Tests

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a. Exact statistic
b. Design: Intercept + Age + group
Within Subjects Design: factor1

### Perceived Stress Scale (PSS) – Intervention Group

### Multivariate Tests

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a. Exact statistic
b. Design: Intercept + Age + group
Within Subjects Design: factor1

Perspective Taking – Intervention Group
### Multivariate Tests

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- a. Exact statistic
- b. Design: Intercept + Age + group
- Within Subjects Design: factor1

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**Personal Distress – Intervention Group**

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- a. Exact statistic
- b. Design: Intercept + Age + group
- Within Subjects Design: factor1

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**Empathic Concern – Intervention Group**
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- a. Exact statistic
- b. Design: Intercept + Age + group
- Within Subjects Design: factor1

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## Fantasy Scale – intervention Group

### Multivariate Tests

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- a. Exact statistic
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- Within Subjects Design: factor1
### Paired Samples Statistics

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*a. group = intervention*

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*a. group = control*
A Spearman's Rank Order correlation was run to determine the relationship between Mindfulness and Perspective taking scores. There was a strong, positive correlation, which was statistically significant ($r_s(8) = .913, P = .0001$)

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

A Spearman's Rank Order correlation was run to determine the relationship between Perspective taking and Personal Distress scores. There was a strong, negative correlation, which was statistically significant ($r_s(8) = .603, P = .008$)
A Spearman's Rank Order correlation was run to determine the relationship between Perspective taking and Empathic Concern scores. There was a no statistically significant correlation ($r_s(8) = -.146, P = .562$)
Pearson product moment correlation co-efficients were computed between the Perceived Stress Scale (PPS) and Personal Distress dimension of the Inter-relational reactivity index (IRI) pre-test scores. There was a strong, positive correlation between them, which was statistically significant ($r = .968, n = 9, P < .001$) for both the intervention and control groups.

### Correlations

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

a. group = intervention
### Nonparametric Correlations

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<td>.008</td>
<td>1.000</td>
</tr>
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</tr>
</tbody>
</table>

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

#### Correlations

<table>
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<tr>
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<tbody>
<tr>
<td>Spearman's rho</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>perspective-taking scale pre</td>
<td>.</td>
</tr>
<tr>
<td></td>
<td>18</td>
</tr>
<tr>
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</table>

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

#### Nonparametric Correlations

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<td>Sig. (2-tailed)</td>
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N = 18