COMPASSION AND PERSON PERCEPTION: AN EXPERIMENT

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Dissertation Prepared for the Degree of

DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS

August 2006

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Raina, Karina Christina, <u>Compassion and Person Perception: An Experiment.</u>
Doctor of Philosophy (Clinical Psychology), August 2006, 149 pp., 8 tables, 20
illustrations, references, 51 titles.

Compassion is one of the fundamental experiences which signify human
existence. Person perception is the constructive process with which we form an opinion
or judgment of another person. Two experiments (N =277) were conducted in this
study. Experiment 1 examined the effects of a mindfulness meditation on compassion in
a large sample of young adults. Participants (n =76) were randomly assigned to three
groups. Participants in group 1 received the mindfulness meditation, group 2 received
an alternate version of the mindfulness meditation (self-focus only), and participants in
group 3 were asked to complete an attention task and read a geological text. It was
hypothesized that mindfulness meditation is significantly associated with the experience
of compassion. Results showed that participants in the experimental group 1
experienced significantly higher levels of compassion compared to participants in the
control group 3. The participants in group 2 were not different from experimental group
1 or from control group 3. Gender differences in the effects of meditation on
compassion were explored. Different measures yielded conflicting evidence for gender
differences in experienced compassion.

For the second experiment a Solomon four-group experimental design was
employed to examine the possible effects of compassion on person perception.
Participants (n = 201) were randomly assigned to 4 groups. The effect of pretesting
impression formation on posttest performance was investigated. It was hypothesized

that compassion has a significant effect on impression formation. The Stouffer's $z-$ method was used to investigate this effect. Results indicated that participants in the experimental groups after completing a mindfulness meditation rated a target person significantly more favorable, compared to participants in the control groups. Results also indicated that pretest had no significant effect on post-test ratings of the impression formation task. Transcendental applications for the inducement and experience of compassion in psychotherapy and the role of compassion in human society are considered. Limitations of this study are discussed and suggestions for future research are provided.

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CHAPTER I

INTRODUCTION

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Compassion

Defining compassion. The literature on compassion is plentiful (e.g. Davidson & Harrington, 2002; Fox, 1979; Gilbert, in press; Kristeller & Johnson, 2005; Ladner, 2004; Lewin, 1996; McNeill, Morrison, & Nouwen, 1966; Gyatso, 1995). However, surprisingly little has been published on compassion as the focus of scientific inquiry (Harrington, 2002; Kristeller & Johnson, 2005; Ladner, 2004). The lack of an agreed upon operational definition may be in part responsible for the scarcity of empirical data on compassion (Landsman & Clawson, 1983). Nonetheless, compassion's tradition in Eastern philosophies is as far-reaching as today's need for its understanding and cultivation. Compassion is one of the four divine behaviors, according to the Buddhists' belief systems (Scotton, 1996). In the Tibetan Buddhist sense of the word, compassion (*karuna* in Sanskrit and Pali) engages a person's focus on somebody who is suffering while suspending a sense of self (Post, 2003). According to Kristeller and Johnson (2005) *karuna* also entails a "wise action to relieve such suffering."

The word origin of compassion in Western culture can be traced to Late Latin (c. A. D. 180-600); *cum-* with and *patī* to suffer, to bear (Partridge, 1958; Webster, 2002).

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To suffer with has been expanded through a variety of definitions within the theoretical literature on compassion. Numerous definitions include aspects of recognition, connection, and sharing of suffering. For example, Tenzin Gyatso (1995; the 14th Dalai Lama) explained that "compassion is based on a clear acceptance or recognition that others, like oneself, want happiness and have the right to overcome suffering. On that basis one develops some kind of concern about the welfare of others, irrespective of one's attitude to oneself. That is compassion" (p. 62-63). The Dalai Lama (Gyatso, 2001) differentiates compassion further by contrasting and comparing compassion with loving-kindness. He explains that just "as compassion is the wish that all sentient beings be free from suffering, loving-kindness is the wish that all may enjoy happiness" (p. 96).

Other authors describe in more detail the "kind of concern" the Dalai Lama emphasizes. Cassell (2002), for example, states that at its core, "compassion is a process of connecting by identifying with another person" (p. 436; see also Brown, 1999; Ladner, 2004; Neff, 2003). Merton (2004) declared that compassion is the keen awareness of the interdependence of all things. Compassion has also been defined as "sharing the suffering of another or others and the desire to relieve the suffering of another or others" (Donius, 1994, p. 8; see also Sznaider, 1997).

Post (2003) equates compassion with empathy that has been linked with goodness. He considered compassion, apart from containing an awareness of suffering, to have a morally beneficent direction. Goldberg and Crespo (2004) further explain compassion as a system of morality (see also Haidt, 2003); Blum (1980) calls

compassion a moral phenomenon, whereas Schopenhauer (1819/1968) considers compassion to be the basis of all morality. Post also declares compassion "an impressive expression of love" (p. 46). In an equally powerful statement, MacIntyre (1966) in his paper on Schopenhauer maintains that "in a moment of compassion we extinguish self-will. We cease to strive for our own existence" (p. 22). Be that as it may, according to McNeil, Morrison, and Nouwen (1966) compassion is the essence of humanity, which in my opinion would require a deepening rather than a suspension of our engagement with our own human existence. The difficulties in finding consensus on a definition of compassion may be best explained by Lewin (1996), who states that "we can attempt to define compassion suggestively, not exhaustively. It is too large, too important, too variegated, too near for any claim to see it clearly and completely to issue in anything else but pretense" (p. 67).

Compassion appears to be a phenomenon which continuously but gently demands attention. Nonetheless it seems to evade the investigator's scrutiny whenever one attempts to grasp it for closer inspection. Among the numerous definitions of compassion I have come across, two capture my personal understanding of compassion most accurately. Both include a sense of softness and tenderness, which the other definitions do not explicitly state. Harrington (2002) defines compassion as the "process of external and internal reorientation that softens our sense of our individuality by bringing it into a felt relationship with the pain and needs of some other" (p. 21; see also Post, 2003). The second definition stems from Webster's Third New International Dictionary (2002), where under compassion one reads a "deep feeling for and

understanding of misery or suffering and the concomitant desire to promote its alleviation" (p. 462). In addition, compassion is a "spiritual consciousness of the personal tragedy of another or others and selfless tenderness directed toward it" (p. 462). I believe both Harrington's and Webster's definitions of compassion describe the essence of compassion and what it feels like in its entirety.

Compassion as emotion. The debate within the literature on compassion does not end with defining compassion, but argues extensively about what compassion actually is. Compassion has been labeled a virtue; a broad set of attitudes (Blum, 1980); a "knowing pursuit of kindness" (Lewin, 1996, p. 27); and an act of active caring (Kumar, 2002). Also, compassion has been considered a passion, which stands in opposition to reason (Cassell, 2002). Compassion has been equated with sympathy and empathy, and denied the status of an emotion. Instead compassion has been defined as ability, or the "tendency or ability to feel whatever another person is feeling" (Forgas, 2003, p. 862). Mostly though, compassion has been categorized as an emotion, which would imply an inherent rational nature and a feeling component (Nussbaum, 1996; see also Blum, 1980; Haidt, 2003; Rozin, 2003; Wuthnow, 1991).

Compassion has been considered to be a *state of mind or heart*. Ladner (2004) explains compassion as separate from emotion. He states that his understanding of compassion is derived from the Tibetan Buddhist understanding of compassion, and the Tibetan language traditionally had no word which would correspond to *emotion* (see also Dreyfus, 2002). Therefore, Ladner considers compassion to entail "a state of mind that's peaceful or calm but also energetic, in which one feels a sense of confidence and

also feels closeness with or affection for others and wishes that they may be free from suffering" (p. 15). Ekman (2003) also explains compassion to be different from emotion, in that it is a reaction "to another person's emotion" (p. 180).

Dreyfus (2002) provides yet another perspective regarding compassion's state as an emotion or as a state of mind. He explains that in Western culture, compassion is selective or sporadic. We experience compassion for some people, but not for others. In the Buddhist tradition, the *bodhisattvas* (compassionate beings who postpone their own enlightenment for the sake of helping others) practice compassion by extending it to all sentient beings. Beginning *bodhisattvas* are often overwhelmed by their sense of compassion, and they display their being overwhelmed with tears. According to Dreyfus, more progressed *bodhisattvas* apparently experience a different kind of compassion, one which is combined with equanimity. Even though the progressed *bodhisattvas* experience compassion strongly, Dreyfus argues, they do not experience compassion as an emotion in the usual sense of the word. I wonder if the separation of compassion from emotion, which Dreyfus so eloquently proposed, is a function of the difference in expression of compassion. Whether or not a person expresses signs of compassionate emotion at an advanced stage of compassionate development may not necessarily be indicative that compassion is no longer experienced as an emotion.

Importance of compassion in psychology. Whether emotion or not, authors who write about compassion are in perfect agreement regarding its importance (Cassell, 2002; Firestone, Firestone, & Catlett, 2003; Gilbert, in press; Harrington, 2002; Kristeller & Johnson, 2005; Ladner, 2004; Lewin, 1996; Mahoney, 2003). According to Cassell (2002), compassion can serve as a motivation for behavior, both individual and societal. Therefore, compassion can be considered one of the foundations of civil society. In addition, compassion has been seen as "a central feature of the search for realization of the creative potentials of our kind" (Lewin, 1996, p. 36). Ladner (2004) suggests that "cultivating compassion is the single most effective way to make oneself psychologically healthy, happy and joyful" (p. xvii). Trusting the ancient wisdom that is represented by the Dalai Lama, I believe we need to pay more attention to compassion. If there is, indeed, such a strong link between compassion and health, happiness, and joy, the study of compassion should become one of psychology's priorities.

The understanding and cultivation of compassion in both therapists and clients appears to be essential. According to Fishman (2002), healing cannot take place without compassion for self and others. As the Buddha said, "to straighten the crooked you must first do a harder thing – straighten yourself" (as cited in Walsh & Vaughan, 1993, p. 154) or in Teyber's (2000) words, "it is what the therapist does that counts, rather than what the therapist says" (p. 218). Fostering an ability to connect compassionately with ourselves, a willingness can emerge to stay in attendance with and open to possible pain. With this openness to our own suffering, presence may bring relief (Fishman, 2002). In other words, compassion has the capacity to free not merely

other people but also ourselves from pain, specifically from anxious and fearful feelings, as well as from feelings of panic (Brantley, 2003).

Compassion, further, is often noted as crucial to the psychotherapeutic relationship and therapeutic process (Gilbert, in press; Ladner, 2004; Lewin, 1996; Mahoney, 2003). Since the therapeutic relationship should not only be considered the "medium in which healing occurs" (Walsh & Vaughan, 1993, p. 154) but should actually be equated with the therapy itself (Kahn, 1997), compassion and its influence on the therapeutic relationship should not be ignored. One could suspect that the effects of a single compassionate moment in psychotherapy could be far-reaching and actually immeasurable.

Further, an important precondition for changes to occur in our clients' lives is to truly understand the client's experience. The most important components of understanding are an active extension of ourselves to the client and an articulation of our understanding of the client's experience that conveys and communicates compassion. Compassionate communication of our understanding then becomes a precursor for a corrective emotional experience in our client. Compassionate communication in association with a corrective emotional experience is a powerful force in helping a client overcome pain and other inner obstacles (Teyber, 2000). As a result, compassion felt and shown within the therapeutic relationship can exert life-long influence on therapists and clients, as well as the people's lives touched by our clients (Mahoney, 2003).

Seligman and Csikszentmihalyi (2000) propose that since World War II psychology has almost exclusively developed into a science of healing. Psychology has concentrated on repairing damage based on a medical or disease model of human existence and functioning. Psychologists have learned considerable amounts of information about how people survive and endure, specifically under highly adverse conditions (Seligman & Csikszentmihalyi, 2000; see also Benjamin, 1992, for a review; Koch & Leary, 1985; Smith, 1997). Yet psychologists have scarce to inadequate knowledge of what makes life actually worth living. Until the advent of positive psychology, the science of psychology did not pay attention to the investigation and discovery of how normal people (however that should be defined) thrive under benign or favorable conditions (Seligman & Csikszentmihalyi, 2000).

And yet volumes on positive psychology are published today without even mentioning compassion. For example, Seligman in his foreword to *Positive Psychology in Practice* commends the authors Linley and Joseph (2004) and their work to be "the cutting edge of positive psychology and the emblem of its future" (p. xiii). Within this 770 page document compassion is not mentioned; the index jumps from *Comparative clinical trials vs. empirically validated treatments*, which the interested reader would find on page 338, to *Competence*, pages 485, 522, 527 and so on (p. 755). Considering that positive psychology was heralded to come to the rescue of compassion, the aforementioned *emblem of our future* is rather dispiriting, to say the least. The study of compassion, an ability and an experience that could make life worth living, is and has been neglected in Western psychology (Ladner, 2004). In order to support a shift in the

focus of psychology from a preoccupation with repairing the worst things in life to investigating ways of fostering positive life-qualities, compassion as well as hope, joy, and happiness, need to be permanent and valued subject matters in scientific inquiry (see also Ladner, 2004; Seligman & Csikszentmihalyi, 2000).

In my opinion, Salzberg (2004) captures in essence the significance of compassion to the human condition in general and psychology in particular. She states:

Compassion is not at all weak. It is the strength that arises out of seeing the true nature of suffering in the world. Compassion allows us to bear witness to that suffering, whether it is in ourselves or others, without fear; it allows us to name injustice without hesitation, and to act strongly, with all the skill at our disposal [retrieved online].

Prerequisites of compassion. In order to experience compassion scholars have proposed a number of prerequisites. Goleman (1997), for example, explains that only with an awareness of the interdependence of all lives can compassion emerge. Further, Cassell (2002), provides an entire list of prerequisites:

First, we must feel that the troubles that evoke our feelings are serious; second, we require that the sufferer's troubles not be self-inflicted – that they be the result of an unjust fate; finally, it is believed that for compassion to be evoked, we must be able to picture ourselves in the same predicament (p. 435).

Cassell explores these prerequisites further and poses a valid question: "If only serious troubles evoke our compassion, who is to judge the seriousness" (p. 435)? He continues stating that compassion is a feeling owned by the spectator, not by the

person who evokes the feeling. Therefore, compassion can be considered a unilateral emotion. This is further supported by the observed fact that no direct contact is needed with the sufferer to elicit compassion.

The process of identifying with the victim or sufferer, which the third prerequisite implies, speaks to the social nature of compassion and its link to the social nature of being human. Cassell (2002) identifies the "paradox of compassion, like that of love, is that it is private, born of personal subjectivity, and social" (p. 436; see also Harrington, 2002). The author emphasizes the core of compassion, the process of identification, or a person's ability to picture him- or herself in equal circumstances (see also Batson, Duncan, Ackerman, Buckley, & Birch, 1981; Clark & Brissette, 2003). The Dalai Lama (2001), rather than stressing the importance of identification, approaches compassion from a standpoint of closeness. Closeness, so he states, is "a feeling of responsibility, of concern for a person" (pp. 91-92). Yet other possible prerequisites may be the ability for a "feelingful engagement" with a person who is suffering (Lewin, 1996, p. 92), an "ability to understand another person's perspective" (Firestone, Firestone, & Catlett, 2003, p. 22), and similarly an ability for "imaginative reconstruction" of the other person's predicament or pain (Blum, 1980, p. 510).

However, maybe the differences are more semantic than actual. Closeness, or *feelingful engagement*, could also be considered a precursor of identification, or a necessary ingredient to identification. Nonetheless, when we connect with the sufferer or identify with him or her, three main components to identification need to be considered: *shared humanness*, *spirit*, and *knowledge of the human condition*. John

Donne's words "any man's death diminishes me, because I am involved in mankind" (1624/1994, p. 441) illustrates the concept *shared humanness*. The suffering of any human can evoke a sense of connectedness and identification merely by the fact that we share "an essentially and recognizably similar humanity with each other" (Cassell, p. 437; see also Blum, 1980). *Spirit* has been defined as a universal category through which all humans are bound together. In the 19th century the German philosopher G. W. F. Hegel was among the first to address this universal category. Olson (1992) poses that the spirit, this universal category, provides an explanation of how humankind, often unknowingly, take an active part in a universal humanity; whereas *knowledge of the human condition* serves as a weighing scale for blame versus lack of control over suffering. The more knowledgeable a person is about others, the less likely will the person blame others for the predicaments they find themselves in. A person's awareness that suffering may be due to consequences out of the sufferer's control is a result of knowing and understanding the human condition (Cassell, 2002).

Identification, though possible through these three different but not necessarily separate avenues, only produces compassion, according to Cassell (2002), when a person is able and willing to recognize that the pain he or she witnesses would also cause suffering or distress within him- or herself. Imaginative power to reconstruct distress and our own reactions to the distress is necessary for us to feel compassion (Blum, 1980, see also Hobson, 1985). For compassion to occur a gap needs to be bridged. Through identification, or through connectedness, by definition, the gap between the sufferer and the observer comes to a close, even when there is no direct

or observable link between the two. Once the distinct sense of separateness is extinguished, compassion can be felt (Cassell, 2002; MacIntyre, 1966; Schopenhauer, 1969; Gyatso, 1995).

Empirical research on compassion. One of the very few published studies on compassion is a longitudinal research study conducted on adolescents in the United States. Beutel and Marini (1995) investigated gender differences in compassion, which was operationally defined as "concern and responsibility for the well-being of others" (p. 438). Compassion was measured using a five-question scale. Beutel and Marini found that females have a greater tendency to be concerned about the welfare of others than males. The research results also showed that females are significantly more likely to express responsibility for others' well-being; a gender difference which has remained fairly constant between the years 1977 and 1991.

Friedman and Riggio (1999) researched compassion together with two other complex affective communications, pride and seduction. Using undergraduate student samples both for the communicators and judges, the authors investigated gender differences in ability to display and communicate these three complex affective states via facial expressions. The authors also tested which basic facial expressions (happy, sad, surprised, angry, disgusted, fearful, and neutral) were used by successful communicators versus unsuccessful communicators in portraying the three complex affective states. Friedman and Riggio found that there were no differences in facial expressions between good and poor communicators of compassion. Both used negative facial expressions, such as sadness, anger, and fear, but no positive facial expressions.

Point biserial correlations between personality measures and ability to communicate complex affects successfully showed that women are better able to portray compassion than men.

Empirical literature focusing on *empathy*, a construct related to compassion, is abundant. Specifically empathy's connection to *altruism* has repeatedly been investigated. Numerous models, theories, and hypotheses have been proposed and tested. To summarize briefly the empathy, altruism, and helping behavior literature, Daniel Batson's work needs to be mentioned. Empathy-induced altruism is a particular focus of Batson's research. His proposed theory, the empathy-altruism hypothesis, has been widely published and repeatedly tested. This theory suggests that empathy serves as a catalyst for prosocial motivation. Once a person is driven by this prosocial motivation, the person's desires and behaviors are directed toward "the ultimate goal of increasing the welfare of the person in need" (Batson et al., 1991, pg. 414; see also Batson, 1987).

Batson and his colleagues developed a method to induce empathy based on a vignette describing a person who without fault of their own is in great need of help. Participants in his research studies are asked to imagine how the person described felt under given circumstances. Successful manipulation of felt empathy on undergraduate students has been measured repeatedly (e.g. Batson, 1987, Batson et al., 1988, Batson, Klein, Highberger, & Shaw, 1995). Batson also has shown that empathy induced altruism is a prosocial motive of behavior that is independent from the need to act in accordance with justice (Batson et al., 1995). Batson et al. (1991) have

repeatedly collected empirical evidence for the empathy-altruism hypothesis. Batson (1987) proposed this hypothesis, which states that empathy evokes an altruistic motivation to help. Smith, Keating, and Stotland (1989), on the other hand, suggested that empathy evokes an egotistical motivation to help, which is based on the experience of a victim's joy over an improved situation.

Another model to explain the relationship between empathy and altruism was proposed by Lee and Murnighan (2001). The empathy-prospect model suggests that for a person to make the decision to help prospects are evaluated. In addition perceptions of need are calculated. The felt sense of empathy appears to be higher in people who observe that a target person is prevented from experiencing loss, rather than aided in receiving potential gain. Further, the empathy-prospect model proposes that altruistic behavior increases with reduced costs to the helper, with no involvement of money, and with increased seriousness of the target person's predicament.

Mindfulness Meditation

Mindfulness meditation – West meets East. Meditation is old. Born in India centuries ago out of Asian psychology it has traveled long and far; its journey initiated by Alexander the Great (356-323 B.C.) and his armies, aided by the writings of transcendentalists such as Emerson and Thoreau, further carried by William James' fascination with religious experiences, and Carl Jung, whose "writings form a major bridge between the psychologies of the East and West" (Goleman, 1988, p. 153; see also Bogart, 1991). Meditation can be explained as a process of internal transformation which entails establishing a calm and focused attention, combined with fostering

awareness, understanding, and compassion (Brantley, 2003; Odajnyk, 1993).

Meditation has also been described as "a scientific system of relaxed reflection" (Nairn, 1999b, p. 7; see also Progoff, 1977). In a way, meditation is not all that different from contemplation; it is in essence not goal-driven. Meditation is a form of familiarization, familiarization with the boundaries of the body and the wanderings of the mind (Yati, 1974). At the same time, meditation is the art of deferring any form of thought, verbal or symbolic for a time, a nonverbal happening of sorts (Watts, 1974).

Mindfulness, a heightened or constant attention to and awareness of events in one's surroundings, has its roots in the Buddhist culture (Bishop, Lau, Shapiro, Carlson, & Anderson, 2004; see also Brown & Ryan, 2004a). Mindfulness, as described by Nairn (1999b) is "based on bare attention and constitutes the most crucial single action in meditation" (p. 60). Mindfulness in the Buddhist tradition is also of great importance, as it is one of the eight noble paths Buddhists walk (Thich Nhat Hanh, 1999). Mindfulness is not about vigilance with respect to our behavior, but concerns the process of increasing clarity and precision with respect to our awareness (Fishman, 2002). Mindfulness is the process of connecting ourselves with what is, in a non-judging, non-striving, and non-denying fashion (Brantley, 2003; see also Salzberg & Kabat-Zinn, 1997); it brings about an alert and skillful state of mind, which requires unconditional presence with our inner environment (Nairn, 1999a). And mindfulness has also been explained as "the energy that brings us back to the present moment" (Thich Nhat Hanh, 1999, p. 64). As a side note, apparently kindness is a vital aspect of mindfulness,

specifically kindness directed toward whatever arises in one's mind while engaged in mindfulness (Brantley, 2003).

There are many forms of meditation. However, two major categories have been proposed: concentration and insight (*vipassana*) forms of meditation (Bogart, 1991). Mindfulness meditation is the form of Buddhist insight meditation with the longest tradition (Fishman, 2002; Nairn, 1999b). With the help of mindfulness meditation the meditator can with training and practice free him- or herself from suffering in all its manifestations (Nairn, 1999b). It is a centering of what is, rather than what may or should be (Watts, 1974). There are many proposed definitions, objectives, and techniques surrounding mindfulness meditation (see e.g. Odajnyk, 1993; Paramananda, 1996; or Roth, 1994). Still there appears to be consensus on the mechanism of mindfulness meditation. Through attention and awareness a centering of the body and the mind is strived for, a focusing of attention "upon registering feelings, thoughts, and sensations exactly as they occur" (Bogart, 1991, p. 384) in order to open oneself to the experience of our inner being. While practicing mindfulness meditation we are reminded that the exercise has a purpose, namely "to realize that there is no future and that the real sense of life is the exploration of the eternal now" (Watts, 1974, p. 34).

Western psychology, even though often taught as having originated in Germany in the late 1800s, has not emerged without considerable influence from elsewhere. Both Eastern psychology and classical philosophy steered the early developments of Western psychology (Goleman, 1988). A systematic combination of mindfulness meditation and psychotherapy has begun to emerge over recent decades. An exploration and alteration

of a person's psychological structure can be undertaken more easily when both methods are used in conjunction (Odajnyk, 1993). Apparently both methods follow parallel paths; both guide toward greater awareness and, because of it, a more conscious and increasingly focused exploration of the self can emerge. Equally important, both offer the opportunity to re-create one's sense of self. Psychotherapists may be more effective using both methods, therapy and meditation, rather than either one alone (Fishman, 2002; see Bogart, 1991, for a review). This is not to say that the combined use of both methods is a cure-all mechanism (Kornfield, 2005). Nevertheless, today meditation seems to be firmly rooted in the scientific community with increasing research conducted on exploring its mechanisms and effects (see Murphy & Donovan, 1997, for a review). Meditation is now a respected tool in Western Psychology (Goleman, 1988).

Mindfulness meditation and compassion. The scientific community has been paying progressively more attention to mindfulness meditation and its applications (Hirst, 2003; Murphy & Donovan, 1997). There has been some disagreement whether or not the concept of *acceptance* is a distinct construct within mindfulness. Bishop et al. (2004) support the importance of acceptance, whereas Brown and Ryan (2003), as well as Tolle (1999) adhere to the idea that acceptance is inherent in paying full attention to the present. Non-judgment (Depraz, Varela, & Vermersch, 2000; Hirst, 2003) and acceptance in mindfulness meditation, however, play vital roles in connection with compassion. Kumar (2002) explains, that "an acceptance of the ubiquity of suffering is necessary for compassion to arise" (p. 42). Mindfulness and compassion are thus

intertwined (Fishman, 2002). Also a compassionate stance toward ourselves creates the foundation for mindfulness, which then in turn strengthens a compassionate attitude toward other beings (Kumar, 2002).

Western researchers and clinicians who incorporate mindfulness into mental health programs usually focus on mindfulness skills independently of the religious and cultural traditions (Boorstein, 1996; Brown & Ryan, 2003; Kabat-Zinn, 1982; Linehan, 1993; Segal, Williams, & Teasdale, 2001; Walsh, 1996). Being in a state of mindfulness has been shown to be positively correlated with reported self-esteem, autonomy, relatedness, feelings of competence, stress-reduction, and positive affect (Astin, 1997; Brown & Ryan, 2003, 2004b). In a study of mindfulness training in medical students, students who underwent training displayed significant quantitative increases in empathy compared to students who did not undergo mindfulness training (Shapiro, Schwartz, & Bonner, 1998).

The effectiveness of mindfulness exercises and training have been mostly researched in a clinical context (see Baer, 2003, for a review). A recent study by Davidson et al. (2003) showed that meditation practiced over a period of two months increases left-sided anterior activation of the brain. Heightened activation in this area of the brain has been associated with the reduction of negative emotions and anxiety as well as the increase of positive emotions. In addition, with the substantial increases in prefrontal cortex activity meditators also had a greater immune system response to an influenza vaccine (Davidson et al.; see also Hall, 2003). Even though research on the effects of mindfulness meditation on neurological and physiological responses is

becoming increasingly popular among scientists (Hall, 2003), mindfulness meditation has mostly been ignored with respect to its traditional Buddhist goal: development of loving-kindness and compassion (Goleman, 2003; Kristeller & Johnson, 2005; Schlitz, 2004; Walsh, 1996).

Lesh (1984) investigated the effects of a four-week meditation training on empathy in master's level psychology students. Lesh found an increase in expressed empathy in the meditation group compared to the non-meditating control group (as cited in Kristeller & Johnson, 2005; and Murphy & Donovan, 1997). Carson, Carson, Gil, and Baucom (in press) also found that mindfulness meditation in couples' therapy can bring about changes in positive emotion in novice meditators, even within fairly short amounts of time. Both Lesh and Carson's studies show that meditation can be effective within a short period of time. According to Fishman's (2002) theoretical exposition, mediation potentially leads to insight, and "insight into the poignancy of the human condition leads to the development of compassion" (Fishman, 2002, p. 9). However, this needs to be empirically tested, especially since there are no data to support this, and neither Less nor Carson demonstrated whether the increase in empathy or positive emotion could be equated with a fostering of compassion (Kristeller & Johnson, 2005).

Mind and Life: Dialogues with His Holiness the Dalai Lama. As part of the *Mind and Life Project,* an organized scientific inquiry of the mind and emotion by a number of scientists in collaboration with the 14th Dalai Lama and other Tibetan Buddhist monks, research on compassion and meditation has been underway for the past several years. Only recently have these meetings been held open to the public (Newton, 2004) and

only few of the findings have been published in peer reviewed journals. However, Davidson and Harrington (2002) and Goleman (2003), all members of the scientist group of the *Mind and Life Project*, detailed a number of research results in their respective books on meetings with the Dalai Lama (see also Goleman, 1997).

Goleman (2003), for example, describes how Davidson used data from an EEG (electroencephalograph) given to a Tibetan Buddhist monk, who was instructed to meditate on compassion. Davidson's data were "the first data ever gathered on brain activity during the systematic generation of compassion" (Goleman, 2003, p. 13). Their implications are profound. Davidson showed the difference between the practiced meditator's versus non-meditators' brain activity. During the time period of meditation on compassion the Buddhist monk's electrical activity within the gamma range in the left middle frontal gyrus of the brain was substantially increased, compared to the non-meditators'. In this area of the brain previous research has shown a relative increase in activity when positive emotions, such as joy, happiness, or enthusiasm are experienced. While activity in the left prefrontal areas of the brain has been associated with positive emotions, the right prefrontal areas have shown increased activity whenever a person experiences negative emotions such as sadness and worry. With mindfulness training the ratio between activity of the left prefrontal areas of the brain and the right can be altered and controlled. The findings imply that we have the capacity to potentially direct our emotional state as well as induce short-term and long-term neural changes (Lutz, Greischar, Rawlings, Ricard, & Davidson, 2004; see also Davidson & Harrington, 2002).

Mindfulness meditation is a means to develop compassion, and it is therefore essential to Buddhist ways of evolving (Walsh, 1999); at the same time, a sense of compassion for all beings is essential for practicing mindfulness meditation (Kumar, 2002). According to the Dalai Lama (Gyatso, 2001) there is "no secret method by which compassion and loving-kindness can come about" (p. 106). Khenchen Konchog Gyaltshen Rinpoche (2001) describes the direct link between meditation, a state of calmness and peace of mind, and compassion, and the necessary role calmness plays in the development of compassion.

Loving kindness and compassion means calm and peace in the mind. When your mind is calm and peaceful, that calmness is loving kindness and that peacefulness is the compassion, then there is space to develop calm and peace for others. As long as you keep your mind calm and peaceful, that itself is an act of loving kindness and compassion. … Buddha said, "If you cannot help others at least do not harm others." That is based on compassion. Not harming others is also compassion because when there is no harming thought, good qualities of [the] individual will come naturally. … When there is calmness and peacefulness, there is clarity of the mind and it opens the potential to develop all the excellent qualities. From that nature, we manifest those qualities to all sentient beings to increase the action of loving kindness and compassion (Khenchen, 2001).

Impression Formation

Impression formation and emotion. With every encounter we form an automatic judgment about the person in front of us. Automatic because we are hardly able to stop perceiving the person we are interacting with, or who caught our attention for any conceivable reason. The intricacy of this constructive process (Kelly, 1955), during which we perceive a person and form an impression, has been a focus of empirical investigation for numerous decades. Also, researchers began to explore possible variables which influence the impression formation process. Emotions were found to be fascinating contenders in the quest for knowledge and truth regarding impression formation (Bower, 1981, 1991; Branscombe, 1988; Forgas, 1991, 1992; Forgas & Bower, 1987; Scherer, 1984; Zajonc, 1980). In fact, researchers began to consider emotions as "an integral and often adaptive part of how information about the social world is processed" (Forgas, 2003, p. 579; see also Zajonc, 1980). The prolific activities of researchers and scholars in the impression formation literature has led to many different theoretical models providing explanations for many different phenomena, suggesting many different mediating and moderating variables, and, at times, breeding contradictory predictions (Martin, 2000).

Throughout the impression formation literature, the terms *impression formation*, *social* or *value judgment*, and *person perception* have been used interchangeably. This suggests that each of these terms refer to the same construct: the process by which a person forms an opinion (Yzerbyt, Dardenne, & Leyens, 1998), or forms a set of inferred personality characteristics (Lidestam, 2002) about a target person. Throughout

this review of the literature *impression formation* is used as the expression to denote this construct. The same problematic usage of terms occurs with emotion, affect, and mood. The definitions for these three affective states appear to be overlapping (Berscheid, 1990; Forgas, 1991; Moore & Isen, 1990). For clarity the term "emotion" is used for all three affective states.

There seems to be an inseparable relationship between impression formation and information gathering. Either explicitly or implicitly, when we are forming an impression we seek information about the target person (Abele & Petzold, 1998; De Bruin, & Van Lange, 2000). When a person forms an initial impression about another person, he or she will consider how trustworthy his or her own judgment is. The person will also instantly categorize the target person given minimal amounts of information (Abele & Petzold, 1998; Yzerbyt, Dardenne, & Leyens, 1998).

Dijker, Tacken, and van den Borne (2000) showed, however, that the influences on impression formation appear to be limited. The authors found that neither attitude nor previously formed impressions play an important role in impression formation. Emotions, though, seem to significantly influence the process of forming an impression (Forgas, 2003). Research by Innes-Ker and Niedenthal (2002) and Stapel, Koomen, and Ruys (2002) has shown that the fastest impression people can form is based on the target person's displayed emotions. We are able to identify emotions based on facial expressions before we can cognitively assess gender or other salient information about the person about whom we are forming an impression. Stapel, Koomen, and Ruys

(2002) also found that people in general notice emotionally charged information faster than non-emotional information about another person's face.

Emotion is relevant in the impression formation process (Branscombe, 1988; De Bruin, & Van Lange, 2000; DeSteno, Petty, Wegener, & Rucker, 2000; Forgas, 1991, 1992; Forgas & Bower, 1987). The experience of an emotion not only assists us but significantly informs us of noteworthy occurrences within the environment. Emotions also promote appropriate actions in response to these occurrences (DeSteno, Petty, Wegener, & Rucker, 2000). Impression formation does not occur in a vacuum. People form impressions of others because they depend on them. When we depend on another person, and when we are able to choose between fostering a common interest versus self-interest, impression formation is essential to us, because an accurate impression may assist us in predicting others' behaviors and guiding our own behavior (De Bruin, & Van Lange, 2000).

When we experience positive emotions, we form positive impressions. The reverse has also been found. When we experience negative emotions we often form negative impressions (Doherty, 1998; Forgas, 2003; Forgas & Bower, 1987; Jackson, Lewandowski, Fleury, & Chin, 2001; Keltner, Ellsworth, & Edwards, 1993; Martin, Abend, Sedikides, & Green, 1997; Stapel, Koomen, & Ruys, 2002). The impression we form of the target person is particularly emotion-congruent when this recognition of emotion of the other person is outside our awareness. This effect, however, was only measured along the happiness-sadness continuum.

There is considerable agreement within the literature about emotions' effects on impression formation (DeSteno, Petty, Wegener, & Rucker, 2000; Gohm, 2003; Ikegami, 2002; Innes-Ker & Niedenthal, 2002; Jackson, Lewandowski, Fleury, & Chin, 2001; Lerner & Keltner, 2001; Stapel, Koomen, & Ruys, 2002). However, there seems to be significant disagreement as to which emotions influence impression formation and under which circumstances. Innes-Ker and Niedenthal (2002), for example, clearly found that happy people form more happy impressions of a target person compared to people not primed for any particular mood (neutral condition participants). The neutral condition participants considered a target person still happier than the people who were primed for sadness. This trend in forming mood or emotion congruent impressions of others also translates onto situations. Research has shown that people who are feeling happy consider events more pleasant than people in the neutral condition, who in turn still found events to be more positive compared to sad people. One of the truly remarkable findings in Innes-Ker and Niedenthal's study was that emotion-congruent impression formation only occurs when participants actually were feeling the emotion, i.e. the emotion was successfully induced and measured. A mere semantic awareness or knowledge of how another person feels (either sad, happy, or neutral) showed no effect in impression formation. Therefore, a successful influence on impression formation through emotions requires the actual experience of an emotion, not merely semantic knowledge thereof.

Impression formation and fear, anger, and gratefulness. Apart from investigating the broad categories of positive versus negative emotions, or focusing on happiness versus sadness, another set of emotions affecting impression formation has been researched. Fear, anger, and gratefulness have been shown to affect impression formation (Bodenhausen, Sheppard, & Kramer, 1994; Gohm, 2003; Jackson, Lewandowski, Fleury, & Chin, 2001; Lerner & Keltner, 2001; Nabi, 2002). Jackson, Lewandowski, Fleury, and Chin's, (2001) as well as Lerner and Keltner's (2001) studies showed that people who experience fear, sadness, and anger form more negative impressions than grateful people. Interestingly, people who experience either anger or happiness did not differ in terms of formed positive impressions. Grateful people tend to form impressions that can be more easily reversed than impressions of happy or angry people (Jackson, Lewandowski, Fleury, & Chin, 2001). The reversal appears to be a function of gratefulness also having a negative emotional component: a sense of indebtedness. Angry people differ from participants in other emotion-groups. Anger leads to a more in-depth processing of information compared to fear or happiness (Bodenhausen, Sheppard, & Kramer, 1994; Mitchell, Brown, Morris-Villagran, & Villagran, 2001; Nabi, 2002). The same has been found for negative emotions in general (Martin, 2000; see also Bless, Bohner, Schwarz, & Strack, 1990; Mackie & Worth, 1989; Sinclair & Mark, 1995).

Lerner and Keltner (2001), and Gohm (2003) considered emotions and risk-taking behavior as a factor in impression formation. Lerner and Keltner found that angry participants perceive situations as less risky, but they perceive target people to

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engage more willingly in risky behaviors compared to fearful participants. This contrasts with Gohm's results. Gohm found that people who experience highly negative emotions form less risky impressions of others. Gohm argued that these findings were congruent with previous research in this area based on assessing an emotion-reversal during the experiment. The initially assessed negative emotions became positive over the course of the experiment. The author offered no explanation regarding the origin, cause, or function of the observed emotion reversal.

Regardless of our own emotional state, we tend to pay more attention to negative rather than positive information regarding a target person. Also, the importance of competence diminishes with increasing age of the perceiver (De Bruin, et al., 2000; Hess & Auman, 2001). Studies that compared the use of moral information with competence information showed that we tend to first ask for information regarding the morals of a target person. Specifically, when we form an impression we prefer to look for information concerning morality, which we consider to be more conclusive compared to information on competence (De Bruin, et al., 2000). We engage in active solicitation of morality information and once we obtain that information we weigh it more heavily compared to competence information (see also Singh & Boon, 2000).

Impression formation and dependency. The emotional state of dependency has been researched within several different frameworks (Dépret & Fiske, 1999; Hess & Auman, 2001; Ruscher, Fiske, & Schnake, 2000; Stevens & Fiske, 2000). When we depend on a target person, the perceived morality and competency of the target person are important informants. Effects of dependency on impression formation differ with

positive and negative morality information (De Bruin & Van Lange, 2000; Pancer, Brown, & Widdis Barr, 1999). When the information about another person's morals is negative, all subsequent positive information regarding competence has hardly any effect on impression formation. De Bruin and Van Lange (2000) found that only when the morality information was positive did positive competence information influence impression formation. On the other hand, impression formation of political leaders is significantly influenced by competence rather than morality, as shown by Pancer, Brown, and Widdis Barr (1999). Interestingly, perception of competence in political figures is not influenced by any positive or negative emotions other than dependency.

Hess and Auman (2001) studied the effects of dependency in comparing young adults with older adults. The authors argue that we use morality information to form impressions and reconstruct others' behaviors. Findings suggest that negative behaviors carry more weight when considering issues of morality, whereas positive behaviors are more salient when considering issues of competence. The impressions we form also depend on whether the dependency on the target person's behavior affects just ourselves or others, in which case we form more negative impressions.

Impression formation and age and gender. Age has also been investigated in relation to impression formation. With increasing age we tend to rely more heavily on diagnosticity in forming impressions. According to Edwards, Weary, von Hippel, and Jacobson (2000) diagnosticity refers to the amount of information one gains by knowing that a target person has certain characteristics. For example, with increasing age we tend to believe that people are more inherently dishonest (trait characteristic) (Hess,

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Bolstad, Woodburn, & Auman, 1999). This effect could be explained by Dépret and

Fiske's (1999) research. They found that reliance on diagnostic information is related

specifically to dependency. The more we depend on a target person, the more we use

the person's characteristics in forming an impression (see also Ruscher, Fiske, &

Schnake, 2000; Stevens & Fiske, 2000). Further, a focus on the diagnostic utility of

information appears to not only increase with age and dependency, but also with levels

of clusters of negative emotions, such as feeling depressed (Edwards, Weary, von

Hippel, & Jacobson, 2000).

Studies that investigated gender differences in emotion and impression formation

are somewhat scarce (Edwards, Weary, von Hippel, & Jacobson, 2000; Gault & Sabini,

2000; Ikegami, 2002). Ikegami (2002) and Edwards et al. (2000) showed no difference

between males and females in how their emotions affect impression formation.

Ikegami, however, found differences in felt self-esteem and impression formation.

Expanding on previous research, Ikegami also found that a person whose negative

emotion is related to very low self-esteem has a tendency to be friendlier and less

hostile in forming an impression of another person. Apparently, the worse one feels

about oneself, the less hostile one is. When negative emotion is not paired with low

self-esteem, the effect is emotion-congruent: negative emotion elicits negative

impression formation. It appears that self-esteem has no effect on when and how we

activate hostility towards others in forming an impression. It appears self-esteem serves

as a moderator of hostility when a person forms an impression. Ikegami suggests a

possible explanation, stating that negative emotions may activate negative or hostile

concepts, which then become easier to retrieve from memory (see also Jussim, Coleman, & Nassau, 1987). This has been challenged, however, by DeSteno, Petty, Wegener, and Rucker (2000), who found the memory activation does not play a significant role in impression formation processes.

Research on emotion and impression formation has widespread foci and applications. A number of research studies that are relevant to this review, however, are highly specialized in their investigation (DeSteno, Petty, Wegener, & Rucker, 2000; Dijker, Tacken, & van den Borne, 2000). Research such as the effect of deviant facial features on impression formation or the effects of emotion on a likelihood bias are summarized here. For example, when we form impressions, facial features that are deviant from the norm result in a more negative impression compared to non-deviant facial features (Dijker, et al., 2000). Also, when we are sad we have a tendency to believe that sad events will occur. Equally, when we are angry, we believe that angering events will occur. The cognitive literature would suggest that once a person is in a specific emotional state, emotion-congruent information is more easily retrieved (Bower & Forgas, 2001). However, DeSteno, Petty, Wegener, and Rucker (2000) did not find such an effect. On the contrary, the likelihood bias does not stem from processes that are based on memory. Specifically, when we have a high need for cognitive activity (such as memory retrieval) we have a tendency to account for the likelihood bias and form impressions that are not influenced by anger or sadness.

A review of the literature on the effects of emotion on impression formation seems incomplete without at least mentioning the expansive literature and research

conducted on the effects of emotions displayed by the target person. To summarize the most salient research finding that appears to be consistent across many studies, a one-sentence statement can suffice: faces that display positive emotions elicit positive impression formation (see also Dijker, Tacken, & van den Borne, 2000; Hess, Blairy, & Kleck, 2000).

The present review of the literature on emotion and impression formation reveals a trend in findings. Emotions appear to have a significant effect on what kind of impressions we form of others. The ability to correctly form impressions of others is of vital significance to all our social interactions (Forgas, 1991). Emotions either serve to carry information, which we employ in forming an impression of another person, or serve to indirectly affect our cognition and subsequently our impression formation processes. Emotions exert a powerful influence on us mainly because we detect them almost instantly as well as effortlessly. Even before we can consider information that requires cognitive activity, such as identifying a person's gender or hair color, we form an impression based merely on the perceived emotional state of the person. Our own emotional state intensifies this effect by producing impressions that are congruent with our emotions. Importantly, the less awareness we have of our emotional state, the more powerful is the effect on impression formation.

Current Study

Research on the effects of emotion and impression formation has a number of limitations and reveals several gaps. The effects of emotion on impression formation has not been well investigated beyond the four major emotion groups: anger, fear, happiness, and sadness. I believe it to be paramount for the advancement of this particular field of psychology that emotions under investigation are not limited to these four types. One could, of course, argue that all other emotions fall into one of the four main categories, but this appears to be an empirical question. Compassion, which is generally considered an emotion, would neither fit clearly into the sad nor into the fear or anger category (Snyder & Lopez, 2002). This experimental study addresses one particular gap within the impression formation literature: to clarifying the potential effects of compassion on impression formation.

Mindfulness meditation and compassion have been linked almost inseparably within the theoretical literature. To date, few studies have actually investigated the effects of meditation on the immediate experience of compassion in a sample of non-meditators. In order to determine if mindfulness meditation is indeed an effective strategy to induce compassion, experiment 1 was designed to investigate the relationship between meditation and compassion. This study tested the effects of a one-time mindfulness meditation exercise on the experience of compassion in research participants. In addition, gender differences in levels of compassion have only been researched with a population sample of high school students, and the last available data

are from 1991. This research project explored possible gender differences in experienced and expressed levels of compassion.

In detail, with experiment 1 the following research questions were examined: Does mindfulness meditation affect levels of compassion? Are there individual differences in levels of compassion? Do scores on the ICI Compassion subscale correlate with the subjective rating of compassion? And are there gender differences in levels of compassion? Experiment 2 was designed to answer the question as to whether compassion has an effect on impression formation, and, in rating a target person, which particular personality characteristics are influenced by compassion.

CHAPTER II

METHOD

Participants

For this study 277 undergraduate students were recruited mostly from

introductory psychology courses at the University of North Texas in Denton. The sample

consisted of both male and female participants, with diverse ethnic backgrounds. 76

students participated in experiment 1 (see Table 1), and 201 students participated in

experiment 2 (see Table 2; also see Figures 1-3 for gender distribution). Participants'

age ranged from 18 to 51 ($M = 21.68$, $SD = 4.33$). Participants were recruited through

the university subject pool and through course instructors. The majority of participants

were offered extra-credit points in exchange for participation. In addition, a small

number of participants volunteered to take part in the experiment. Participants were

treated in accordance with the ethical principles of the American Psychological

Association (APA, 2002).

Measures and Instruments

Compassion. The Instrumental Caring Inventory Compassion subscale (ICI;

Donius, 1994) was used to measure the degree of compassion the participants are

experiencing. The ICI Compassion subscale is a 20 item self-report measure, which

assesses the level of compassion a person typically experiences. On a 4-point Likert-

type scale ranging from 1 (strongly disagree) to 4 (strongly agree) participants rated

how much they agree with each statement. Statements are worded both positively and

negatively, and include "I feel sorry for people who are caught in unhappy relationships," "I cannot bear to see children who are mistreated," and "I am seldom disturbed when I learn about tragedy happening to people I don't know." The ICI Compassion subscale has been shown to have satisfactory psychometric properties. Its reliability (Cronbach's alpha = .71 - .73), convergent, and discriminant validity in samples of female college and nursing students are adequate (Donius, 1994). According to Cassell (2002), individuals differ substantially in how much compassion they experience. Therefore, in addition to the ICI Compassion subscale, participants were asked to rate their subjective level of compassion, both momentarily and in general on two Likert-type scale questions ranging from 1 (none) to 10 (very much) (see Appendix A).

Mindfulness. The Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003) was used to assess levels of dispositional mindfulness. The MAAS is a 15-item self-report measure, which assesses attention to and awareness of emotions, interpersonal circumstances, actions, thoughts, and physical sensations. On a 6-point Likert-type scale ranging from 1 (almost never) to 6 (almost always), participants rate how frequently they have had the experiences described in each statement. Items include: "I forget a person's name almost as soon as I've been told it for the first time," "I rush through activities without being really attentive to them," and "I drive places on 'automatic pilot' and then wonder why I went there." The MAAS has been shown to have satisfactory psychometric properties. Its reliability (Cronbach's alpha = .82-.87),

convergent validity, and discriminant validity in college and community populations are high (Brown & Ryan, 2003).

Impression formation. An impression formation task adapted from Asch (1946) and Lidestam (2002) was used to assess whether participants form positive or negative impressions of a target person. A 3 x 3 inch black-and-white photograph of a 14 year-old girl's face with a neutral facial expression (from Ekman, 2003, *Emotions revealed*, p. 164) was attached to a white board, sized 8 x 11 inches. Participants were shown this photograph for a time period of 10 seconds. After the picture was removed, the participants were asked to rate on a list of 19 scales their impression of the target person. The 19 bi-polar scales employed a Likert-type scale ranging from 1 to 7. Scales included personality characteristics such as "generous or ungenerous," "ruthless or humane," and "imaginative or hard-headed." The polarity of the scales was randomized to control for response set effects. Reversed items' scores were adjusted and a total score computed. A higher score signified a more favorable impression, whereas a lower score demonstrated a less favorable impression of the target person. Research has repeatedly shown that more physically attractive people are perceived to be more sociable, intelligent, kind, successful and so on (see Berscheid & Walster, 1974, for a review). For that reason the scale "attractive or unattractive" was included in this measure to control for the effects of physical attractiveness on person perception.

Mindfulness meditation. A mindfulness meditation on compassion and loving-kindness adapted from the Dalai Lama (Gyatso, 2001), Kornfield (1993), Kristeller and Johnson (2005), Ladner (2004), and Salzberg (1995) was used in this study to induce

compassion (see Appendix B for a transcript). This focused meditation stems from a

long tradition of meditation directed toward creating and fostering experiences of

compassion and connectedness (Kristeller & Johnson, 2005). According to Progoff

(1977) the sound of the spoken word is essential to the deepening of the emotional

experience. The meditation exercise was therefore recorded on compact disk by the

researcher in a soothing voice and played on a small CD-player to guide the participants

through the meditation. The length of the mediation exercise was 12 minutes and 50

seconds. Participants were asked to find a comfortable position and to close their eyes.

The exercise included an induction into a relaxed state, a repeated direction toward a

focus on breathing, and a heightening of awareness of physical sensation related to

breathing. The meditation exercise further repeated four key phrases, "May I be free

from suffering. May I find my joy. May I be filled with love. May I be at peace." During

the exercise the focus of the participants was redirected from "I" to "a benefactor," "a

good friend," then to "a neutral person," followed by "a difficult person," and "all beings

in the world." At the end of the meditation participants were asked to gently readjust

their positions and reopen their eyes.

A second mindfulness meditation was developed for control purposes (see

Appendix C for a transcript). The meditation exercise was also recorded on compact

disk by the researcher in a soothing voice and played on a small CD-player to guide the

participants through the meditation. The length of the mediation exercise was 8

minutes and 20 seconds. Participants were asked to find a comfortable position and to

close their eyes. As in the previous meditation, this exercise also included an induction

into a relaxed state, a repeated direction toward a focus on breathing, and a heightening of awareness of physical sensation related to breathing. The meditation exercise also repeated four key phrases, "May I be free from suffering. May I find my joy. May I be filled with love. May I be at peace." It was differentiated from the first mindfulness meditation in that the focus of the participants was kept on "I," rather than being redirected onto other people.

Attention task and additional reading. A specific attention task was developed for the purpose of this study (see Appendix D). A symbol-matching task was created, using regular symbols from word-processing software. On the left side of the row a symbol was depicted, there were three symbol choices in the middle of the row, and participants were asked to indicate on a yes/no scale whether the symbol on the left was present or absent among the three symbols in the middle. In addition, a geological text on various cloud types and cloud development was chosen as a filler task. The text was obtained from the University of Illinois – Urbana/Champaign, Geology Department website and shortened for appropriate length. Both exercises combined took approximately 10 minutes to complete.

Manipulation check. All participants were asked to rate their level of involvement with the experiment on a 10 point Likert-type scale ranging from 1 (not at all) to 10 (very much) (see Appendix E). Participants in the groups that included the mindfulness meditation were also asked to provide the first names of the people they focused on, and to give ratings on similar 10 point Likert-type scales on how consistently they were able to focus on each individual person. Finally, participants were asked whether they

found the meditation exercise to be difficult or not, and if so, they were prompted to briefly describe their difficulties.

Demographic questionnaire. A specifically developed questionnaire was used to collect data on demographics (see Appendix F). Participants were instructed to provide information regarding gender, age, ethnicity, GPA. Also this questionnaire asked for information regarding the religion participants were educated in, and the religion they were presently following. In addition, two questions regarding prior meditation experience needed to be answered. On a yes/no formatted question participants indicated whether or not they had any meditation experience prior to participating in this experiment. If participants had prior experience they answered a second question. On the second question participants indicated how often they practiced meditation, ranging from "daily," "weekly," "once a month," to "less than once a month."

Design and Procedure

Two experiments (experiment 1 and 2) were conducted in this study. Participants were tested in small groups ranging from one person to 9 people at a time. Three female experimenters conducted the study; all following the same instructions (see Appendices G and H). The three experimenters randomly rotated the experimental groups they conducted at varying times of the day. The experiments took place in one laboratory space within the psychology building at the University of North Texas, with the exception of testing a one-time group of 5 participants, which took place in a classroom on the UNT campus. All participants were assigned a random identification number extracted from a random number table (Schweigert, 1994). Participants were

handed an envelope including the consent form and all questionnaires. Participants

were given the details of the consent from (see Appendix I) and asked to sign it.

Participants in experiment 1 were informed at the onset of their participation that this

experiment tested issues related to attention and human relationships. Participants in

experiment 2 were told this experiment tested their capacity to gauge personality

characteristics. For internal validity purposes information was kept deliberately vague.

After the completion of the experiment, all participants were debriefed, were given an

opportunity to ask questions, were thanked for their participation, and were dismissed.

Experiment 1. Experiment 1 employed an experimental vs. control group design

(see Appendix J for an overview). In order to determine whether mindfulness

meditation can induce compassion an experimental group (group 1) and multiple

nonequivalent comparison groups (groups 2 and 3) were tested. This allows for a more

in-depth exploration of threats to causal inference (Shadish, Cook, & Campbell, 2002).

Participants (N = 76) were randomly assigned to either the experimental or one of the

two control groups. Participants in the experimental group 1 (n = 26) took part in the

recorded mindfulness meditation exercise. Participants in group 2 (n = 25) listened to

the alternate (self-focus only) mindfulness meditation exercise. Participants in group 3

(n = 25) did not participate in the mindfulness meditation exercise, but were given an

attention task. Upon completion of the attention task participants were required to read

through a geological text on cloud development. Participants in all three groups were

asked to rate their experienced level of compassion on the ICI Compassion subscale

(Donius, 1994) combined with the two subjective rating questions, Manipulation Checks

1 and 2, and Manipulation Check 3, which inquired about the extent to which participants felt involved in the experiment. In addition, participants were asked to fill out the MAAS and a demographic questionnaire. To counteract influences of social desirability to a degree, all participants were asked to be as honest as possible in their ratings of the questionnaires, and were told that they should not answer the questions in a way they thought these questions should be answered. Only participants in group 1 were also asked to fill out the remaining manipulation check question to see how well they were able to focus on individual persons during the meditation exercise.

Experiment 2. In experiment 2 a Solomon four-group experimental design was employed (see Table 3; Braver & Braver, 1988; Whitley, 1996). Since a pretest, an initial impression formation task, was deemed necessary to determine the effect of compassion on impression formation, the presence and degree of the effect of the initial impression formation task were investigated through the Solomon four-group design (Shadish, Cook, & Campbell, 2002; Whitley, 1996). Also, Lepore and Brown (2002) found that priming has significant positive effects on impression formation. A pretest impression formation task can potentially function as a priming event for the research participants. The Solomon four-group design was employed in order to ensure that priming did not act as an uncontrolled confound in the current study.

Participants (N = 201) were randomly assigned to either the experimental or the control groups (see Appendix J for an overview). Groups 4 and 5 were pretest-posttest conditions, whereas groups 6 and 7 were post-test only conditions. Therefore, participants in the experimental group (group 4) (n = 53) were given a pretest

(impression formation task), after which participants were led through the compassion inducing mindfulness meditation. A posttest (impression formation task) was administered, showing the participants the same picture of the target person for a second time. In the control group (group 5) (n = 49) participants were first given the impression formation task pretest, then they were instructed to complete an attention task, followed by the reading of a geological text on cloud development, and finally they were given the impression formation posttest. In the second experimental group (group 6) (n = 50) participants were led through the compassion-inducing mindfulness meditation, after which they were given only the posttest impression formation task. Participants in the final control group (group 7) (n = 49) were instructed to complete an attention task and to read a geological text on cloud development and then were asked to complete the posttest impression formation task.

Participants in all four groups were also asked to complete the ICI Compassion subscale, the two subjective rating questions, MC 1 and MC 2, the manipulation check regarding their involvement, MC 3, the MAAS, and the demographic questionnaires. As in experiment 1, influences of social desirability were addressed. All participants were asked to be as honest as possible in their ratings of the questionnaires. Participants were further told that they should not answer the questions in a way they thought these questions should be answered. In addition, participants in groups 4 and 6 were also asked to fill out the remaining manipulation check question to see how well they were able to focus on individual persons during the meditation exercise. At the onset of the posttest impression formation task, immediately after participants had seen the

photograph for the second time (also for 10 seconds), participants in groups 4 and 5

(pretest condition) were informed that the experiment's purpose was not to measure

their ability to remember their previous rating on the impression formation scale;

instead, participants were told, they were to rate the target person as they perceived

the person at that moment.

CHAPTER III

RESULTS

Experiment 1

Data from experiment 1 were analyzed in order to corroborate that mindfulness

mediation has an effect on compassion. All 76 participants provided all necessary data,

with a few minor exceptions on demographic information (e.g. one person did not

indicate age). Therefore all data collected were included in the analysis.

A univariate analysis of variance (ANOVA) was used to calculate the Fisher's F

ratio in order to determine the relationship between participation in a meditation

exercise and levels of compassion participants experienced. The independent variable

was participation in mindfulness meditation, altered mindfulness meditation, or a

control condition (groups 1, 2, and 3 respectively). The dependent variable was level of

compassion as measured by the ICI-Compassion subscale. The Levene's Test of

Equality of Error Variance on the ICI Compassion total score was non-significant $F(2,$

$73) = .087, p > .05$. Therefore, normality of variance for the ICI score variable was

assumed. Participants' scores on the ICI measure ranged from 46 to 68 out of a

possible 20 to 80 range, where higher scores indicate higher levels of compassion ($M =$

$59.18, SD = 4.68$). Participants ($n = 26$) in group 1 (mindfulness meditation condition)

had a mean ICI score of 59.77, $SD = 4.31$. Participants ($n = 25$) in group 2 (altered

mindfulness meditation condition) had a mean ICI score of 59.84, $SD = 4.77$. And

participants ($n = 26$) in group 3 (control condition) had a mean ICI score of 57.92, SD

= 4.87. The univariate analysis of variance showed that on the ICI scores the three groups were not significantly different, $F(2, 73) = 1.38$, $p > .05$. One possible explanation for the lack of significant findings on the ICI compassion subscale could be that the nature of the measure is oriented toward an assessment of a trait versus a state. The ICI could yet be another example of how trait measures attempting to capture the complexity and the immediacy of emotions repeatedly fall short.

To further clarify possible group differences on experienced compassion, the three groups were compared on the subjective rating question on how much compassion the participants experienced at that moment (Manipulation Check, MC 1). A Pearson's r product-moment correlation was used. Results indicated that ICI scores and MC 1 scores were significantly correlated, $r(75) = .32$, $p < .01$. This correlation would give reason to assume that the ICI compassion subscale and the MC 1 scale measure related constructs. The Levene's Test of Equality of Error Variance on the MC 1 score was non-significant $F(2, 73) = .855$, $p > .05$. Therefore, normality of variance for the MC 1 score variable was assumed. Participants rated their level of compassion on the Likert-type question as to how much compassion they were feeling at that moment. All participants rated their levels of compassion from 1 (not at all) to 10 (very much) ($M = 6.67$, $SD = 1.97$). Participants in group 1 ($n = 26$) (mindfulness meditation condition) had a mean MC 1 score of 7.35, $SD = 1.81$. Participants in group 2 ($n = 25$) (altered mindfulness meditation condition) had a mean MC 1 score of 6.8, $SD = 1.8$. And participants ($n = 26$) in group 3 (control condition) had a mean MC 1 score of 5.84, $SD = 2.1$ (see Figure 4). The univariate analysis of variance test of between-subjects

effects showed that there was a significant difference on the MC 1 scores between the three groups, $F(2, 73) = 4.126$, $p = .02$. A post hoc analysis employing Tukey's (HSD) test of honestly significant difference showed that participants in group 1 rated themselves significantly more compassionate than participants in group 3, $p = .016$., whereas participants in group 2 were neither significantly different from group 1 nor group 3. There was sufficient power (observed power = .713), so to determine the practical size of this difference the effect size Eta (η) was computed. The effect size provides information on the impact the independent variable has on the outcome of the experiment. In other words, the effect size shows the magnitude of the experimental effect. The analysis revealed a small to medium effect size ($\eta = .32$) indicating that there was a real and practical effect present (Lipsey, 1990). These results suggest that the meditation developed for this experiment did indeed induce compassion, when compared to the altered meditation and attention exercise.

To further investigate the usefulness of the manipulation check (MC 1) question as a measure of felt sense of compassion, the scores on the MC 1 variable were compared with scores on the second manipulation check question (MC 2), which inquired as to how compassionate participants felt in general. The Levene's Test of Equality of Error Variance on the MC 2 score was non-significant $F(2, 73) = .277$, $p > .05$. Normality of variance for the MC 2 score variable was therefore assumed. Participants rated their levels of compassion from 1 (not at all) to 10 (very much), $M = 7.47$, $SD = 1.39$. Participants ($n = 26$) in group 1 (mindfulness meditation condition) had a mean MC 2 score of 7.65, $SD = 1.26$. Participants ($n = 25$) in group 2 (altered

mindfulness meditation condition) had a mean MC 2 score of 7.32, SD = 1.38. And

participants (n = 26) in group 3 (control condition) had a mean MC 2 score of 7.44, SD

= 1.56. The univariate analysis of variance test of between-subjects effects showed

that there was no significant difference on the MC 2 scores between the three groups, F

(2, 73) = .372, p > .05. Participants' ratings on how much compassion they felt in

general were consistent across the three groups (Figure 5 and 6). This finding provides

further evidence that the meditation developed for this study had the desired effect;

compassion induction. In addition, the ICI scores in this sample were also significantly

positively correlated with the MC 2 scores, as tested with a Pearson's product moment

correlation, r (75) = .36, p = .001. As mentioned earlier, the ICI scores are also

correlated with MC 1 scores, which could be indicative of the ICI compassion scale

being a measure of both, momentarily felt compassion, and compassion felt in general.

Gender differences on MC 1, MC 2 scores (see Table 4), and compassion ICI

scores were tested. Given the unequal sample size the results should be interpreted

with caution. Possible gender differences in effectiveness of the meditation in inducing

compassion as measured by the MC 1 score were explored. The Levene's Test of

Equality of Error Variance was non-significant, F (5, 70) = 1.91, p = .31, therefore

normality was assumed. No significant differences between males and females were

found on compassion felt momentarily, F (1, 70) = .004, p = .95 (see Figure 7). The

Levene's Test of Equality of Error Variance was non-significant, F (5, 70) = 1.91, p =

.104, therefore normality was assumed. There were no significant differences between

female and male participants on the level of compassion participants experienced in

general, as measured by the MC 2 scores, $F(1, 70) = 2.24$, $p = .14$. Likewise, gender differences in compassion were investigated based on ICI compassion scores. The Levene's Test of Equality of Error Variance was non-significant, $F(5, 70) = .29$, $p = .92$, therefore normality was assumed. On the ICI scores significant gender differences were detected, $F(1, 70) = 9.05$, $p = .004$ (see Figures 8 and 9).

Experiment 2

Data from experiment 2 were analyzed in order to investigate the effects of compassion on person perception. All 201 participants provided the necessary data, with a few minor exceptions on demographic information (e.g. information on high school GPA or the person's age was omitted in a small number of cases). Therefore all data collected were included in the analysis.

Data from experiment 2 were analyzed in several phases. The first step was to determine whether perceived physical attractiveness of the target person may have influenced scores on the impression formation task. Participants who completed the pretest impression formation task rated the target person as neither attractive nor unattractive. Their mean score rating was $M = 3.72$, $SD = 1.45$, with a mean of 4.0 indicating neutrality in the measure. Posttest scores on the attractiveness scales came even closer to neutral perception of physical attractiveness, with a mean of $M = 3.99$, $SD = 1.54$ in groups 4 and 5. Combining all data on the attractiveness scale both from pretest and posttest impression formation task for groups 4, 5, 6, and 7 produced a mean score of $M = 3.85$, $SD = 1.48$. Results indicate that participants did not perceive the target as particularly physically attractive and it was therefore concluded that the

impression formation task ratings on the remaining 18 scales were not biased due to attractiveness.

A second step in the analysis was to explore possible differences of pretest impression formation task scores between experimental group 4 and control group 5 (pretest condition). A pretest-posttest design operates based on the assumption that participants in different treatment groups score similarly on the pretest measure. To clarify that this assumption was met in this experiment a univariate ANOVA was employed. The Levene's Test of Equality of Error Variance was non-significant, $F(1, 100) = 2.14$, $p = .15$. The analysis of variance showed that participants in groups 4 and 5 (pretest condition) did not score significantly differently on the pretest impression formation task, $F(1, 100) = .34$, $p = .56$, providing evidence for the assumption that at pretest both groups perceived the target person similarly.

The statistical analysis continued by testing whether the first impression formation task (pretest) caused pretest sensitization. The scores on the pretest impression formation scale ranged from 38 to 98, out of a possible range of 20 to 140, with higher scores indicating more favorable impression ratings, $M = 66.13$, $SD = 12.36$ (see Table 5, Figures 10 and 11). A 2 x 2 between-groups analysis of variance (ANOVA) on the four groups' posttest impression formation scores (group 4, 5, 6, and 7) was employed. Posttest impression formation scores ranged from 31 to 115, with higher scores indicating more favorable impression formation ratings, $M = 71.02$, $SD = 14.25$ (see Figures 12-16). The factors were mindfulness meditation (treatment yes vs. no) and initial impression formation task (pretest yes vs. no).

According to Campbell and Stanley (1963) should this 2 x 2 ANOVA produce a statistically significant interaction, pretest sensitization should be assumed. As a consequence, treatment effects could not be inferred. This analysis, however, showed a non-significant interaction between treatment and pretest, $F(1, 200) = 3.78$, $p > .05$ (see Table 6, Figures 17 and 18). According to Braver and Braver (1988), with a non-significant interaction, the main effect of treatment from the 2 x 2 analysis of variance reflects a treatment effect. This analysis showed that this main effect is substantial and significant, $F(1, 200) = 8.357$, $p < .01$. In other words, the two groups that received the compassion meditation rated the target person significantly more favorably than the participants in the control conditions. This significant main effect counts as considerable evidence for the hypothesis that compassion has an effect on impression formation.

The use of a Solomon four-group design allowed for additional analyses. Considering that the 2 (pretest-no pretest) x 2 (treatment-no treatment) interaction approached significance, further analyses seemed warranted. To clarify whether the compassion inducing meditation had an effect on impression formation a series of tests were employed. First, a two-group (group 4 and 5) analysis of covariance (ANCOVA) on the posttest impression formation scores, covarying the pretest impression formation scores was conducted. This analysis has considerable power in detecting treatment effects (Cuervorst & Stock, 1978; Braver & Braver, 1988), and produced significant results, $F = 12.01$, $p = .001$ (see Table 7). This result provides further evidence for a treatment effect. To gather additional corroboration for the effect of compassion on impression formation a second test was conducted. An independent-samples t–test on

the posttest impression formation score comparing groups 6 and 7, however, did not achieve levels of significance, $t(99) = .79$, $p = .47$, indicating that treatment had a questionable impact.

Following Braver and Braver's (1988) recommendation, given the ANCOVA's significant results, but not the independent samples t–test's, the Stouffer's z method, a meta-analytic method was used (Stouffer, Suchman, DeVinney, Star, & Williams, 1949). With this method all data from all four groups are incorporated into an analysis testing for treatment effects. According to Braver and Braver with this method the power of the overall analysis testing for treatment effect will become even more powerful. In their words, employing the Stouffer's z method for a Solomon four-group experimental design, makes it "the most powerful single test of the treatment effect available" (Braver & Braver, 1988, p. 153), because it allows the use of all data from all four groups. As this method prescribes, the p-values of the two separate analyses (ANCOVA and independent samples t–test) were converted to normal deviate z–scores, also called standard scores. Both z–scores were then combined into a single z_{meta} with the following formula:

$$z_{meta} = \Sigma_i \, z_{pi} \, / \, \sqrt{k} \tag{1}$$

where z_{pi} is the z value corresponding to the one-tailed p value of the ith statistical test and k is the number of such tests. In this present study, $k = 2$. Therefore the formula is as follows:

$$z_{meta} = (z_{p1} + z_{p2}) \, / \, \sqrt{2} \tag{2}$$

where z_{p1} is the z value to the one-tailed p value of the ANCOVA (p=.001), and z_{p2} is the z value corresponding to the one-tailed p value of the independent samples t–test (p =.47). To calculate the z_{meta} for the present study, the p values were transformed into z scores of .001 and 3.25 for the ANCOVA and the t–test respectively:

$$z_{meta} = (.001 + 3.25) / \sqrt{2} = 2.298 \qquad (3)$$

In reference to a z–table, the significance level for the z_{meta} = 2.298 is p = .029 (Howell, 2002). Due to these results of the Stouffer's z meta-analytical method there is warrant for the conclusion that treatment had a significant impact on posttest scores. From this final analysis, therefore, it can be concluded that compassion does indeed have a significant effect on impression formation, resulting in people forming overall more favorable judgments of a target person.

The impression formation scale consists of 19 personality characteristic pairs, such as generous versus ungenerous, popular versus unpopular, and humane versus ruthless. In order to determine on which specific personality characteristics participants consistently rated the target person significantly more favorably pretest impression formation scores were compared to posttest impression formation scores. A repeated measure analysis of variance was used to measure consistent rating differences between pretest and posttest impression formation scores in group 4 (compassion condition) and group 5 (control condition). Of the 19 personality characteristic pairs, 4 met significance levels in the repeated measures analysis. Results indicate that participants in group 4 when compared to group 5 considered the target person significantly more good-natured rather than irritable, $F(1, 100) = 6.61$, p = .01;

significantly more popular rather than unpopular, $F(1, 100) = 5.36$, $p = .02$;

significantly more important rather than insignificant, $F(1, 100) = 4.02$, $p < .05$; and

participants in group 4 considered the target person significantly more open rather than

restrained $F(1, 100) = 5.08$, $p = .026$ (see Table 8). For additional graphical display of

data regarding gender difference in experiment 2 please refer to Figures 19 and 20.

CHAPTER IV

DISCUSSION

The second Humanist Manifesto, published in 1973 and signed by such notable

people as Bette Chambers, Albert Ellis, and Hans Eysenck, pleas in eloquent ways the

case for humanity. It states:

> We urge recognition of the *common humanity* of all people. We further urge the
>
> use of reason and *compassion* to produce the kind of world we want – a world in
>
> which peace, prosperity, freedom, and happiness are widely shared. (p. 23;
>
> italics added)

Considering the agreed-upon importance of compassion, the lack of rigorous

experimentation exploring this significant concept seems rather surprising. This study

showed that compassion can be effectively induced in a sample of college students. A

simple meditation, which offers guided imagination to freeing oneself and all other

beings from suffering, and wishing everybody a sense of love, joy, and peace, can

suffice. Roughly half of the participants who completed the meditation exercise stated

that they found aspects of it difficult. Regardless of the difficulties experienced, their

levels of compassion were significantly higher than those of participants in the control

groups.

Emotion researchers tend to shy away from investigating complex phenomena,

mostly due to the challenges in operationally defining and measuring the phenomenon.

This study showed that even the complex emotion compassion, with an excess of

definitions and no specifically designed measure, can be scientifically investigated. What initially began as an exploratory idea, attempting to find ways to induce compassion in a regular college population, grew into a solid research study. With the use of sophisticated methodology and thorough statistical analyses, I was able to show that people's sense of compassion can be heightened. I investigated the possible effect of a one-time meditation on inexperienced meditators measuring their levels of compassion, and then using their state of heightened compassion to check alterations in their ways of perceiving or judging another person. However, to further substantiate these findings, the study or aspects of it should be replicated.

The current study was conducted in two stages. Experiment 1 showed that a brief mindfulness meditation exercise can serve as a possible route to successfully induce compassion in a college student sample. Rigorous methodological and statistical procedures showed that there were no gender differences in compassion. Measures on general levels of compassion as well as compassion levels presently experienced showed no gender differences. This stands in contrast to previous research on gender differences and compassion (Beutel & Marini, 1995). In agreement with previous research were the results of the Instrumental Caring Inventory (ICI) Compassion subscale. This measure showed that women appear to be more compassionate than men. I believe these findings should be interpreted cautiously, mainly for the fact that the ICI was normed only on female graduate students and did not include males in the normative sample. The restricted normative sample may be a partial explanation for the gender differences in compassion found only on ICI scores but not on the two

subjective rating. Moreover, there are probably additional plausible explanations for the significant gender difference on the ICI scale. For example, the ICI scale may also measure constructs related to compassion, such as empathy or caring involvement. Furthermore, social pressures may exert varying pressure on males versus females to conform to possible care-probing items.

The second experiment, using the previously tested meditation to induce compassion, explored the effects of compassion on participants' person perception. As predicted, participants who completed the meditation exercise judged the target person significantly more favorably than participants in the control group. Specifically, after compassion was induced participants in the meditation group, compared with participants in the control group, considered the target person significantly more good-natured rather than irritable. Equally, more compassionate participants considered the target person significantly more popular rather than unpopular, more important rather than insignificant, and more open rather than restrained when compared with participants in the control group. I find it especially interesting that when they felt more compassionate, participants thought of the target person as more popular than unpopular. Given that the mean age of the participants in the study was fairly young, approximately 22 years, popularity may have a different status within the social construction of favorability in this particular population.

Testing and experimentation needs to start with a solid definition for compassion. Future research exploring the complexities of compassion, the experience of compassion and the effects of compassion should continue with thorough qualitative

inquiry. A qualitative study answering questions such as: what is compassion, what brings compassion about, what is the experience of compassion, what results can come from feeling compassion, how compassion is different from pity, sympathy, and empathy could potentially produce interesting and useful hypotheses for further testing. Grounded theory analyses could be used to develop such ideas including but not limited to other forms of compassion induction, duration of compassion, and subsiding of compassion, which then could be tested within a quantitative research framework.

Furthermore, a good measure needs to be developed. We need a measure which is built on an widely shared and agreed upon definition, that may include assessment of a person's willingness to feel his or her own vulnerability. In my opinion, definitions of compassion that include a sense of tenderness are most accurate. Research investigating the presence of tender feelings in compassion could further clarify our understanding of compassion. A measure needs to be devised, which also assesses feelings of tenderness. In my opinion tenderness is a fundamental aspect of compassion. The compassion measure used, the compassion subscale of the *Instrumental Caring Inventory* (Donius, 1994), may not have been the most appropriate assessment of compassion for this study, mainly for two reasons: first, the items were developed based on an abstract and broad definition of compassion that does not fully overlap with the definition I found most befitting. Donius considered compassion to be "the sharing of the suffering of another … and the essence of humanity" (p. 73) which is only partly in agreement with my preferred definition. The questionnaire items remain vague about the sharing, whether it is a willingness or an actual act, there is no

mention of feelings of tenderness, and lastly, how does one go about developing items for a measure that capture the "essence of humanity?" As intriguing and inspiring as this may sound, it surely would be a daunting task. And second, given the significant correlations between the ICI and both questions regarding momentarily felt compassion and personal ratings of general compassion, one could argue that the ICI does not sufficiently distinguish between compassion experienced in the moment and general capacity or readiness to feel compassion.

A new measure developed for the assessment of compassion should employ a normative sample that is representative of US census data, including not only both females and males, but also people with a variety of ethnic, social, and educational backgrounds. A newly developed measure should also distinguish between tenderness, vulnerability, and weakness. Questions such as whether there is weakness in compassion or to what degree vulnerability is experienced in contrast to hopefulness of an improvement of the sufferer's condition should be addressed within a comprehensive measure. I can only speculate, but these remain questions in need of empirical testing.

Limitations of the current study are mostly due to the sample used. A college population does not really lend itself for confident generalization to the wider public. Even though the sample used was adequately ethnically diverse, a sample from a variety of cultural, social and educational backgrounds, with a more balanced distribution of age groups would be preferable to the one used. Also, it would be interesting to examine a sample of therapists, both on the effectiveness of the meditation to induce compassion and on the effects of compassion to influence person

perception. Even more relevant would be to test therapists' changes in perception with regard to their clients. Instead of using a random target person, a hypothetical client could be used to test for changes in perception and judgment. Should such research produce significant results the implications thereof could be far-reaching. As a result, our quality of work may be enhanced, our interactions may become more fluid, and most importantly the therapeutic relationship could dramatically be transformed. In addition, our clients may also benefit from a method at their disposal to increase their feelings of compassion when needed.

The current study's results are promising and provide encouragement. One particular finding, however, deserves a more in-depth reflection. In the second experiment participants in group 4 (pretest and meditation condition) scored considerably higher on the posttest impression formation task than participants in group 6 (no pretest and meditation condition), where it was expected that their scores would be similar. The impression formation task, a measure of person perception, could also be seen as a measure of liking. Numerous research studies have shown the effects of mere exposure on liking, a phenomenon which as been termed the *exposure effect* (Zajonc, 1968; see Harrison, 1977, for a review). When participants in this study saw the photograph of the target person for a second time the exposure to the picture was increased by 100% compared to participants in group 6 (no pretest condition). Given previous research in this area it appears reasonable to conclude that the considerably more favorable perception of the target person in group 4 may in part be due to the exposure effect.

To me one of the most remarkable results of this study is the empirical

substantiation of meditation as a means to induce compassion. However, another

personal favorite is the finding that when compassionate we apparently perceive people

as more important rather than insignificant. I find this remarkable for all its possible

implications; but especially because the target person, a 14-year-old girl, would in the

traditional scheme of the world probably be placed toward the lower end of the

significance scale. This gives me hope.

Theodore Zeldin (1994) in his *Intimate History of Humanity* writes that

"spontaneous outbursts of compassion have seldom been more than rainbows in the

sky; they have not changed the climate; they have not so far stimulated a desire to

listen to what enemies have to say" (1994, p. 243). Future research could investigate

possible methods to induce and maintain more long-term feelings of compassion. With

longer lasting feelings of compassion one could explore other effects of compassion, for

example willingness to change behavior, willingness to engage in open dialogue, or

willingness to compromise in conflict. Also, questions regarding the physiological effects

of compassion should be addressed in more detail. Davidson's (2002) and Lutz et al.'s

(2004) research has shown that brain activity changes dramatically with practiced

meditation on compassion. An alternation in brain wave activity could therefore

plausibly induce changes in physiological responses. The question of what does

compassion feel like could be further explored. Also, could the induced feeling of

compassion, for example, recharge a person who is experiencing fatigue or symptoms

of burn-out? Research using compassion to develop treatment strategies for symptoms

of compassion fatigue (see e.g. Figley, 2002; Stamm, 1999) could benefit from more empirical testing of the possible effects of compassion.

Throughout this project I have described the object of the exercise as an *induction* of compassion. I believe *induction* is an unfortunate choice of word. I do not think that in the scope of this experiment I was able to induce anything, since in my understanding of the word it would imply something from the outside was placed within the students that happened to participate in these experiments. Instead, what the mindfulness meditation did was to awaken the sense of compassion these students already felt. The meditation was simply redirecting their attention, which makes it such a wonderful tool to use. It feels gentle and respectful, unlike the methods of various altruism and empathy researchers, who use a hammer where a soft touch would suffice.

To be fair, I should explain the hammer analogy further. Within the empirical altruism and empathy literature, empathy is *induced* – in their case it is a real induction – by showing participants a visual recording of a mock interview (see e.g. Batson, Duncan, Acherman, Buckley, & Birch, 1981; Batson et al., 1991). With variations on the theme the general idea is as such: In this interview a young woman is portrayed, who just recently had lost her mother due to tragic circumstances. She now has to take care of her younger siblings, while her father is grief-stricken. Merely thinking of the scenario makes me feel something. But in the mix of emotions that go through me, I find it hard to differentiate where sadness ends and compassion begins. There is hardly any subtlety in this approach. According to Prentice and Miller (1992) the power of an

investigation often is a derivative of the subtleness of the activating stimulus. Statistical strength of an effect is strongly enhanced with an increasingly minimalistic manipulation of the independent variable. The finding of increased compassion due to a mindfulness meditation, hence, becomes all the more salient. I enjoyed this project, and I was invested in trying to find ways to translate what I felt to be true into numbers. I believed compassion can arise from guided mindfulness meditation, and compassion affects how we perceive people. Undoubtedly, statistical significance ruled my world for a number of months. It is with great pleasure that I conclude my dissertation knowing that I was able to show that meditation can be the path to feel more compassionate, and that I was able to show that compassion is not merely important in the abstract or in the ideal, but that it has a very real and important effect on our basic human interactions: the perception of another human being.

Compassion has been a focus within the spiritual and theoretical literature for centuries. Any possible image of a kind and civilized society must include interactions of its members influenced by compassion. While we "can see dignity beneath the suffering" (Zeldin, 1994, p. 242) we can continue to build a common humanity. Without compassion humanity becomes questionable and the collective spirit dies. Compassion is not only important, it is also powerful. To bring about effective change no arms, no violence is needed, but in essence an ability to construct in our imagination what it would feel like to truly walk in another person's shoes.

During the course of this project I came across many writings on compassion that though in disagreement about a number of things, all conversed about compassion

in a kind of reverent manner. We respect compassion. Yet with all that has been written a few things strike me as missing. There is no formal discussion of what compassion feels like. We know that various brain activities change while in a compassionate state, but that is the extent of our knowledge. I don't think this is good enough. How can the moment in which we are immersed in our internal well of compassion be described, put into words, and conveyed. Of course, the cynic in me stands up and says "who cares?" Frankly, I do. Anybody who is committed to the field of psychology and humankind should care, too. There is no future for true happiness without compassion. Compassion is what gives us a shared experience. Real disconnectedness, which is a function of an absence of compassion, cannot lead to joy and meaning. We need to make connections, especially with our clients, to stand up to the promise we are making: taking care.

As mentioned earlier, the understanding and cultivation of compassion in therapists seems essential for the therapeutic relationship and work (Fishman, 2002). For that reason I find it disconcerting, to say the least, that as a profession built on compassion, we are not formally trained in any aspects of compassion (Salzberg & Kabat-Zinn, 1997). We do not know how to take care of compassion, how to nourish it, or how to strengthen it. After our profession has surfaced, it has grown into this vast machinery of care-giving, running at full speed, without us paying much attention to the oil, its most basic need. Any mechanic could tell us that this is a disaster in the making. I believe that compassion is the oil in the machinery, it is fluid, and gentle, and

prevents damage from occurring. As operators of the machinery, I believe it is of great importance for us to know exactly how to oil this machine.

For the sake of our profession and the world community, compassion needs to be seen, needs to be paid attention to, needs to be explored, and needs to be further investigated. I set out with this project concerned that compassion may be one of these delicate phenomena that diminishes or gets injured in the dissecting process – which research often is. Comfortingly, very much the contrary occurred. Compassion does not dwindle once a person takes a closer look; instead it awakens.

Having completed this research project and having been writing on behalf of compassion I would like to end this work with someone else's words. Pema Chödrön, a well known female Buddhist teacher wrote:

When you begin to touch your heart or let your heart be touched, you begin to discover that it is bottomless, that it does not have any resolution, that this heart is huge, vast, and limitless. You begin to discover how much warmth and gentleness is there, as well as how much space. (as cited in Bloom, 2000, p. 66)

May our capacity for compassion stand on equal grounds with the touched heart.

Table 1

Demographic Information for Experiment 1

Variables	N	Percentage
Total	76	
Gender		
Female	63	82.9%
Male	13	17.1%
Ethnicity		
African American	12	15.8%
Anglo American	44	57.9%
Asian American	6	7.9%
Hispanic	8	10.5%
Native American	3	3.9%
Other	3	3.9%

Note: Other: includes all international students.

Table 2

Demographic Information for Experiment 2

Variables	N	Percentage
Total	201	
Gender		
Female	129	64.2%
Male	72	35.8%
Ethnicity		
African American	31	15.4%
Anglo American	117	58.2%
Asian American	8	4.0%
Hispanic	31	15.4%
Native American	1	.5%
Other	13	6.5%

Note: Other: includes all international students.

Table 3

Solomon Four-Group Experimental Design (one treatment condition)

Design	Group		Pretest	Treatment	Posttest
Solomon four-group	G_4	R	O_1	X	O_2
	G_5	R	O_3		O_4
	G_6	R		X	O_5
	G_7	R			O_6

Note: G: experimental and control group; R: randomization; O: observation (impression formation task);

X: treatment (compassion induction via mindfulness meditation).

Table 4

Means and Standard Deviations for Manipulation Check 2

	Females			Males		
Group	N	*M*	*SD*	N	*M*	*SD*
1	22	7.64	1.22	4	7.75	1.71
2	21	7.48	1.37	4	6.50	1.29
3	20	7.65	1.23	5	6.60	2.51

Note: no significant differences were detected.

Table 5

Means and Standard Deviations for Solomon Four-Group Design

		Pretest		Posttest	
Group	N	*M*	*SD*	*M*	*SD*
4	53	66.81	13.38	77.62	16.79
5	49	65.39	11.23	68.22	13.40
6	50			69.78	13.56
7	49			67.94	11.47

Note: Pretest and posttest scores are cumulative scores on the impression formation task, with higher

scores represent more favorable impression of the target person.

Table 6

Analysis of Variance on Posttest Impression Formation Scores

Source	*MS*	*df*	*F*	*p*
Prestest vs. Not (P)	829.15	1	4.37	.038
Treatment vs. Not (T)	1585.30	1	8.36	.004
P x T	716.67	1	3.78	.053
Error	189.70	197		

Note: The interaction between pretest and treatment was considered non-significant, p>.05.

Table 7

Analysis of Covariance on Groups 4 and 5

Source	MS	df	F	P
Treatment vs. Not	1800.85	1	12.01	.001
Error	149.97	99		

Note: Analysis of covariance (ANCOVA) on the posttest impression formation (IFT) scores, covarying pretest IFT scores.

Table 8

Significant Personality Characteristic on Impression Formation

Characteristic	Group	N	Pretest M	Pretest SD	Posttest M	Posttest SD
Good-natured	4	53	2.77	1.24	3.91	1.43
	5	49	2.71	1.40	2.76	1.44
Popular	4	53	3.08	1.55	3.55	1.25
	5	49	2.82	1.11	2.82	1.13
Important	4	53	3.36	1.36	3.94	1.71
	5	49	3.02	1.22	3.33	1.25
Open	4	52	2.83	1.63	3.71	1.64
	5	49	2.69	1.36	2.67	1.33

Note: Significance levels at $p < .05$.
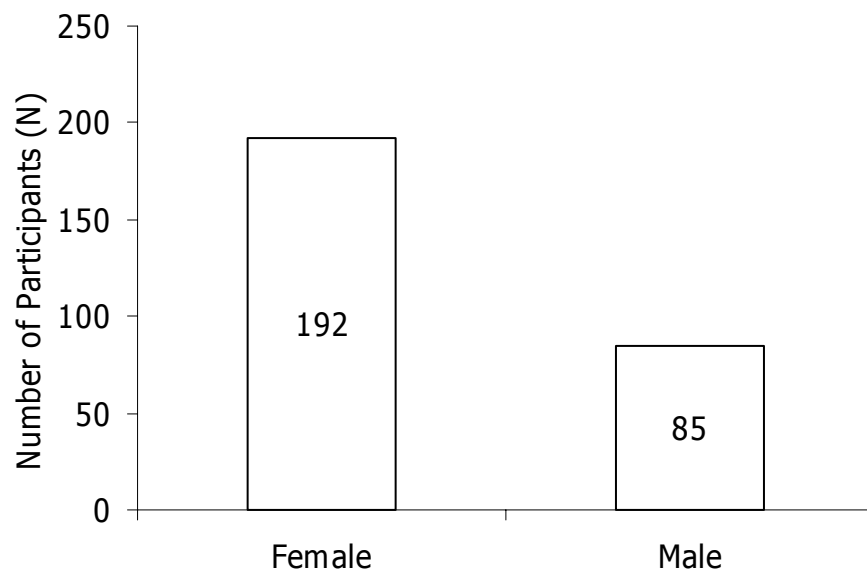
Figure 1. Gender distribution for both experiment 1 and 2 combined.
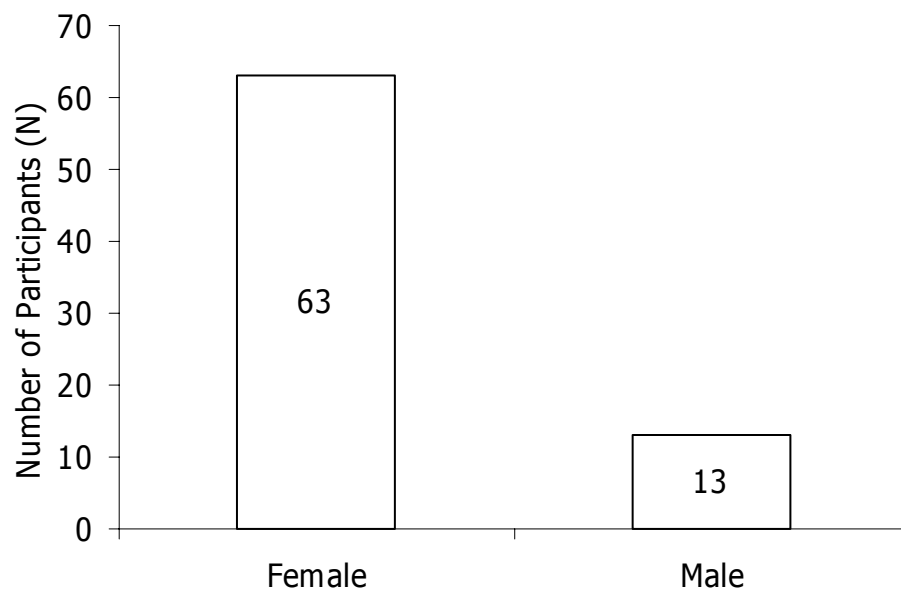
Figure 2. Gender distribution for experiment 1.
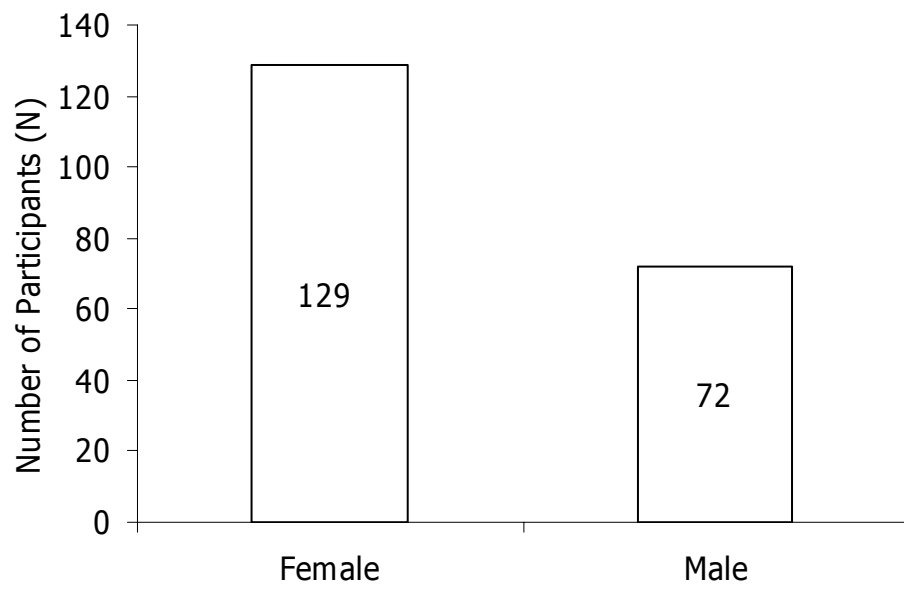
Figure 3. Gender distribution for experiment 2.
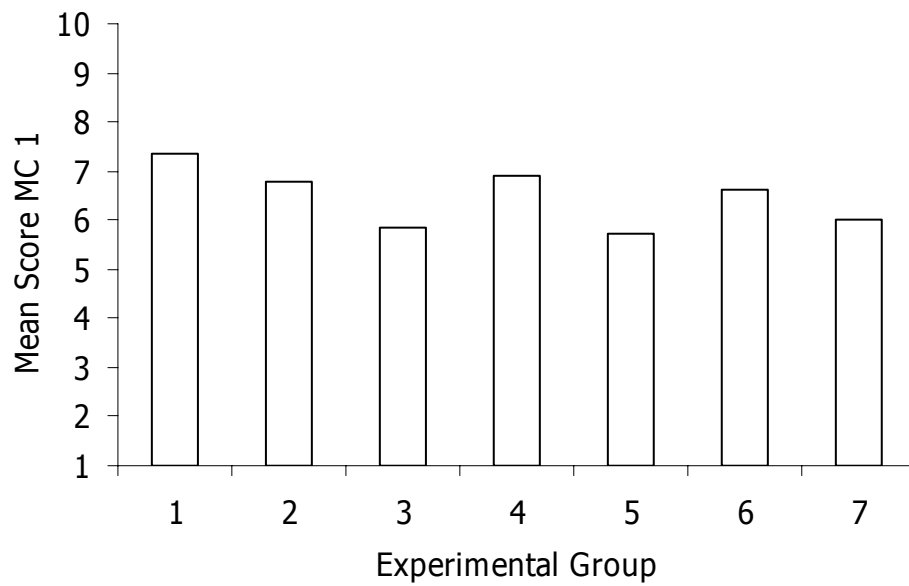
Figure 4. Mean scores of Manipulation Check 1 by experimental group, across both

experiments 1 and 2.

Note: MC 1: Manipulation Check 1, rating to the question "how much compassion do you feel right now?"
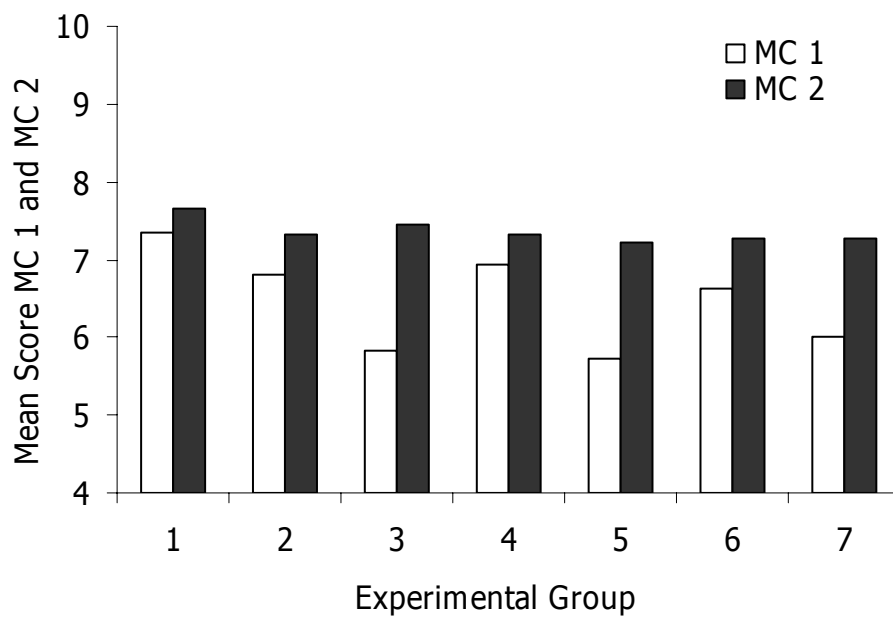
Figure 5. Mean scores of Manipulation Check 1 compared to mean scores of

Manipulation Check 2 by experimental group, across both experiments 1 and 2.

Note: MC 1: Manipulation Check 1, rating to the question "how much compassion do you feel right now?"

MC 2: Manipulation Check 2, rating to the question "how much compassion do you feel in general?"
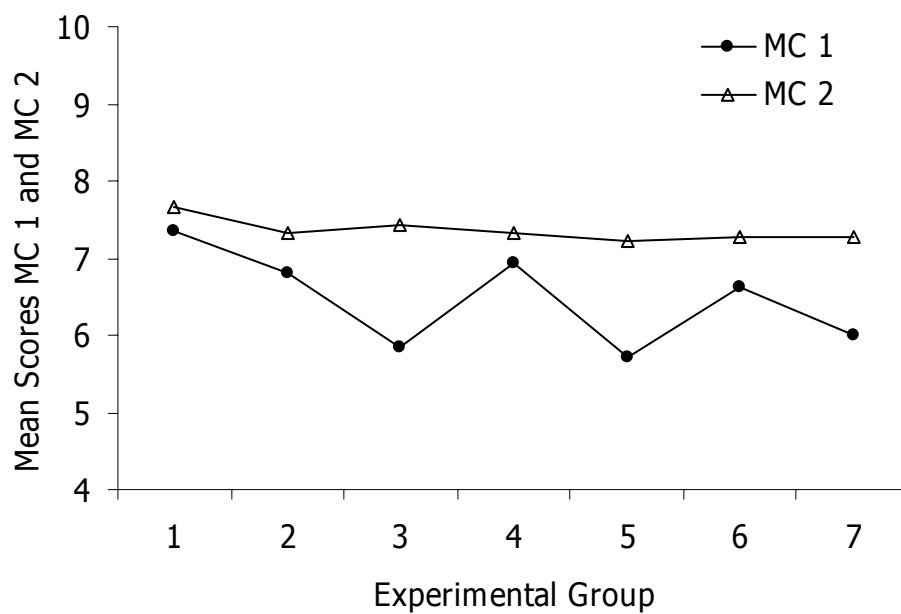
Figure 6. Line graph of mean scores of Manipulation Check 1 by experimental group, across both experiments 1 and 2.

Note: MC 1: Manipulation Check 1, rating to the question "how much compassion do you feel right now?"

MC 2: Manipulation Check 2, rating to the question "how much compassion do you feel in general?"
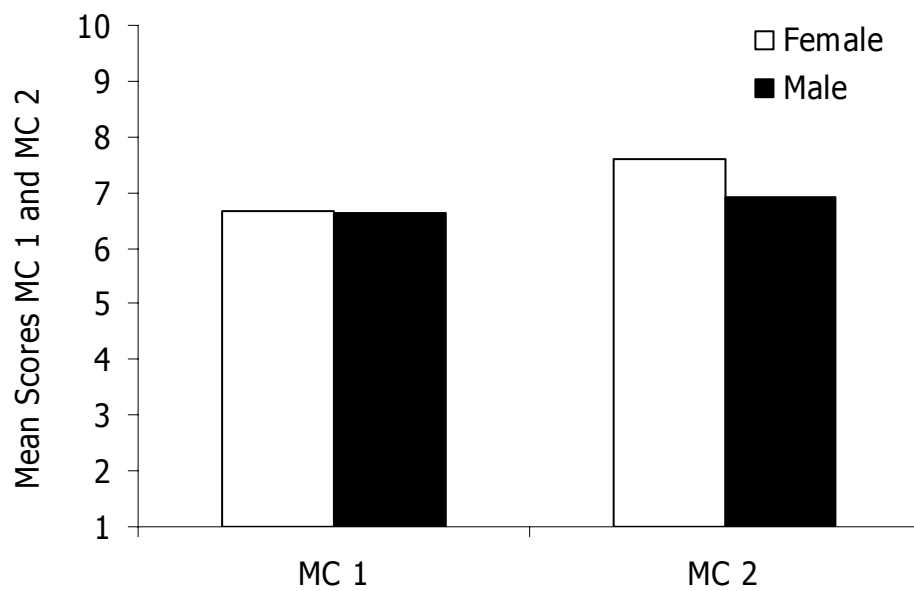
Figure 7. Experiment 1: Gender differences on Manipulation Check 1 and 2 mean

scores.

_____

Note: MC 1: Manipulation Check 1, rating to the question "how much compassion do you feel right now?"

MC 2: Manipulation Check 2, rating to the question "how much compassion do you feel in general?"
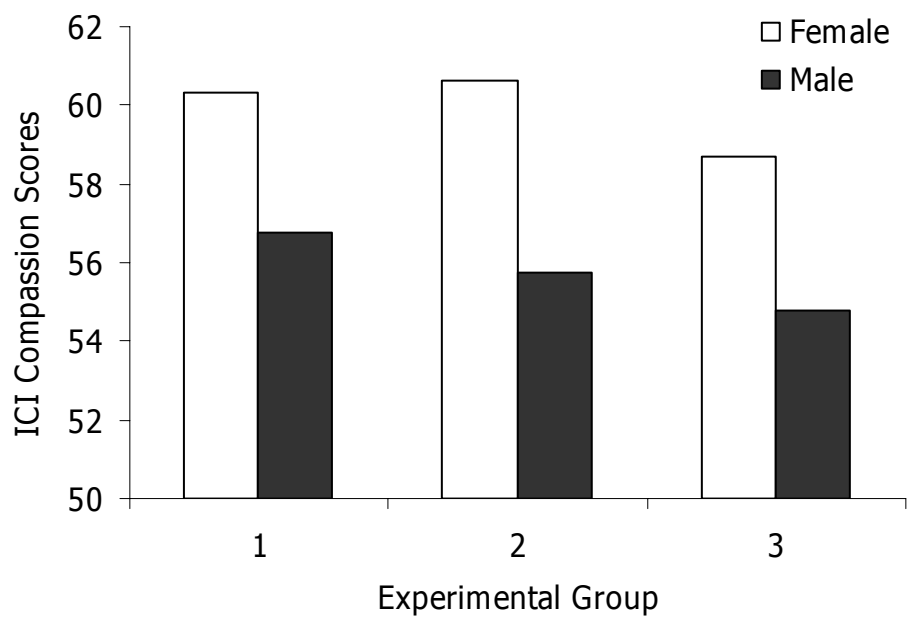
Figure 8. Experiment 1: Gender differences on ICI compassion subscale scores.

Note: ICI: Instrumental Caring Inventory, Compassion subscale.
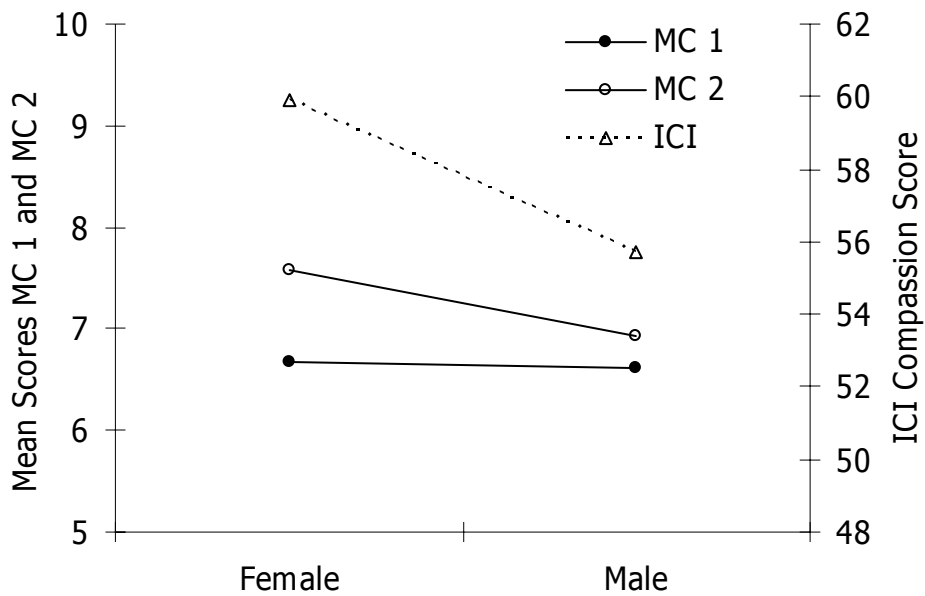
Figure 9. Experiment 1: Gender differences of mean scores on Manipulation Check 1,

Manipulation Check 2, and ICI compassion subscale scores.

Note: MC 1: Manipulation Check 1, rating to the question "how much compassion do you feel right now?"

MC 2: Manipulation Check 2, rating to the question "how much compassion do you feel in general?"

ICI: Instrumental Caring Inventory, Compassion subscale.
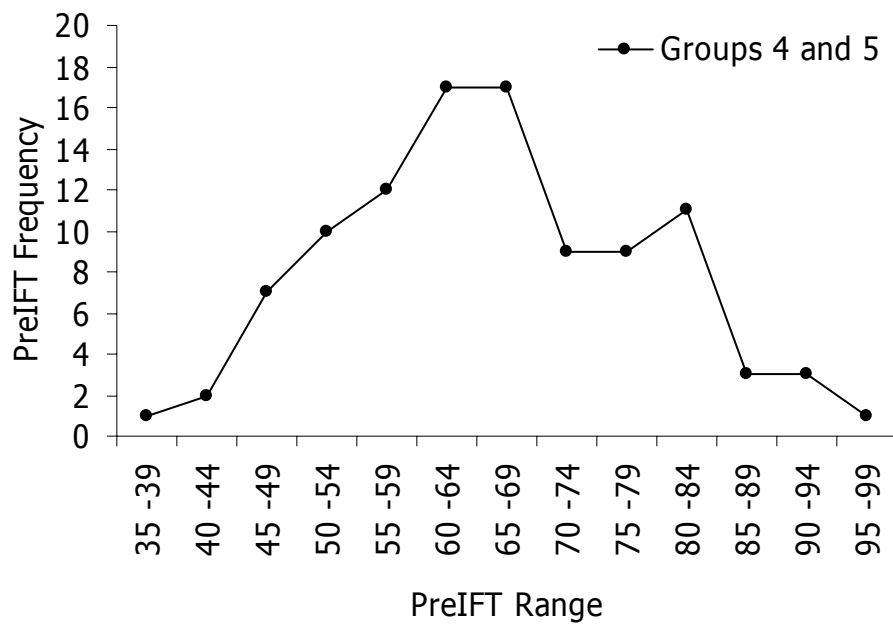
Figure 10. Experiment 2: Frequency ranges for pretest Impression Formation Task (IFT)

for groups 4 and 5 combined.

Note: IFT: higher scores indicate more favorable impression of the target person.
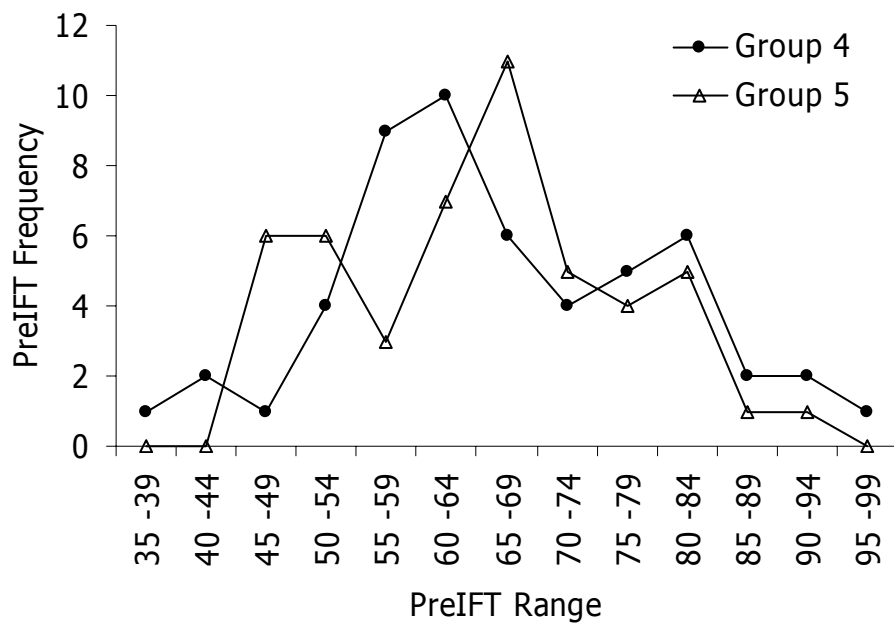
Figure 11. Experiment 2: Frequency ranges for pretest Impression Formation Task (IFT) overlapped for groups 4 and 5.

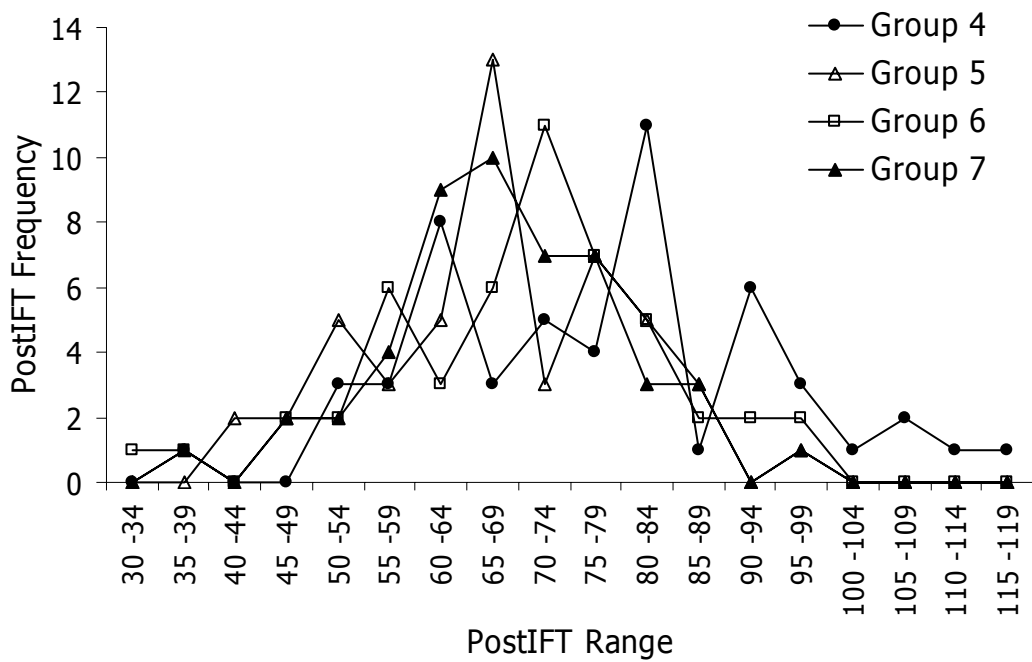*Note:* IFT: higher scores indicate more favorable impression of the target person.
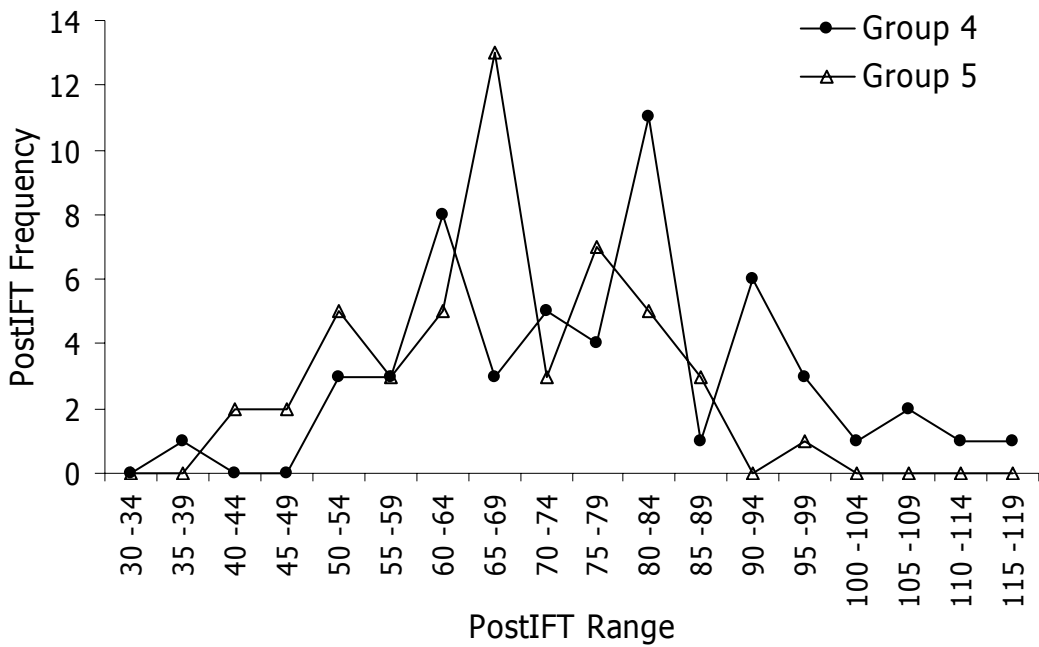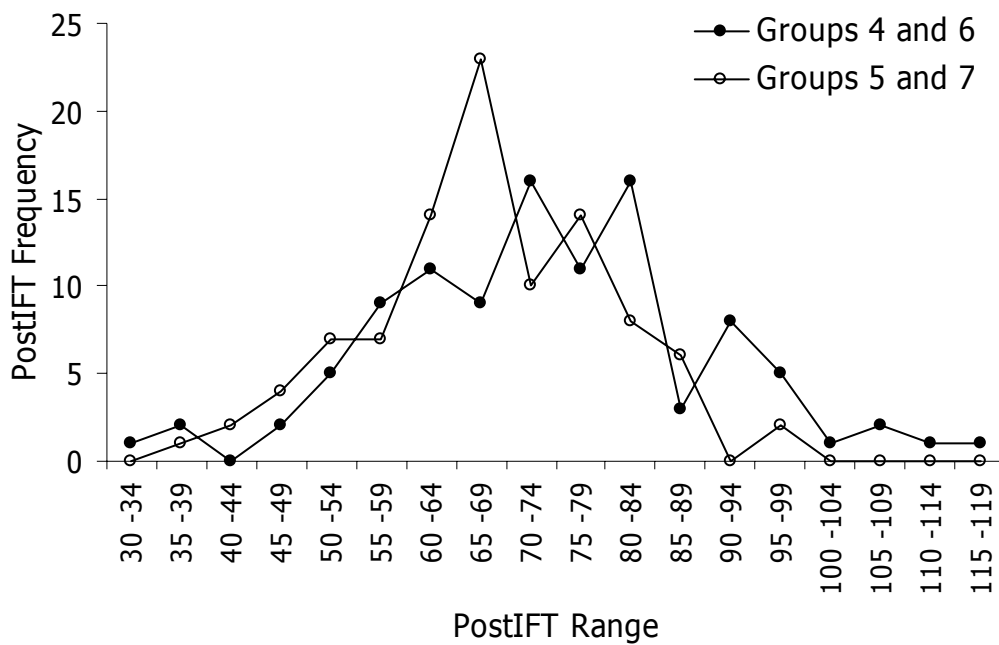
Figure 12. Experiment 2: Frequency ranges for posttest Impression Formation Task

(IFT) overlapped for groups 4 and 5.

Note: IFT: higher scores indicate more favorable impression of the target person.
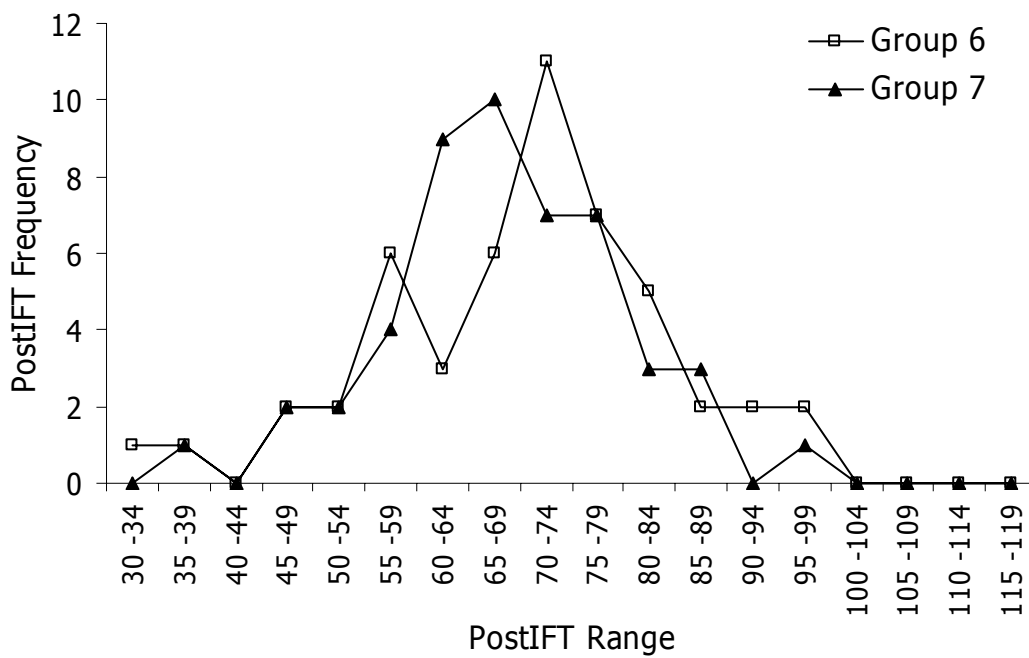
Figure 13. Experiment 2: Frequency ranges for posttest Impression Formation Task (IFT) overlapped for groups 6 and 7.

Note: IFT: higher scores indicate more favorable impression of the target person.

Figure 14. Experiment 2: Frequency ranges for posttest Impression Formation Task

(IFT) overlapped for groups 4, 5, 6 and 7.

_____

Note: IFT: higher scores indicate more favorable impression of the target person.

Figure 15. Experiment 2: Frequency ranges for posttest Impression Formation Task

(IFT) overlapped for meditation groups 4 and 6, and control groups 5 and 7.

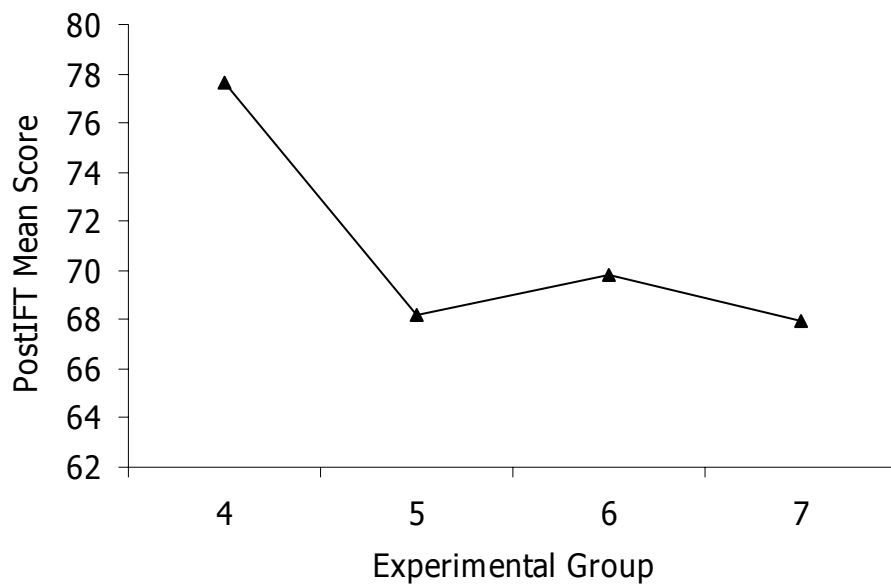*Note:* IFT: higher scores indicate more favorable impression of the target person.

Figure 16. Experiment 2: Mean scores of posttest Impression Formation Task (IFT) for

experimental groups 4, 5, 6, and 7.

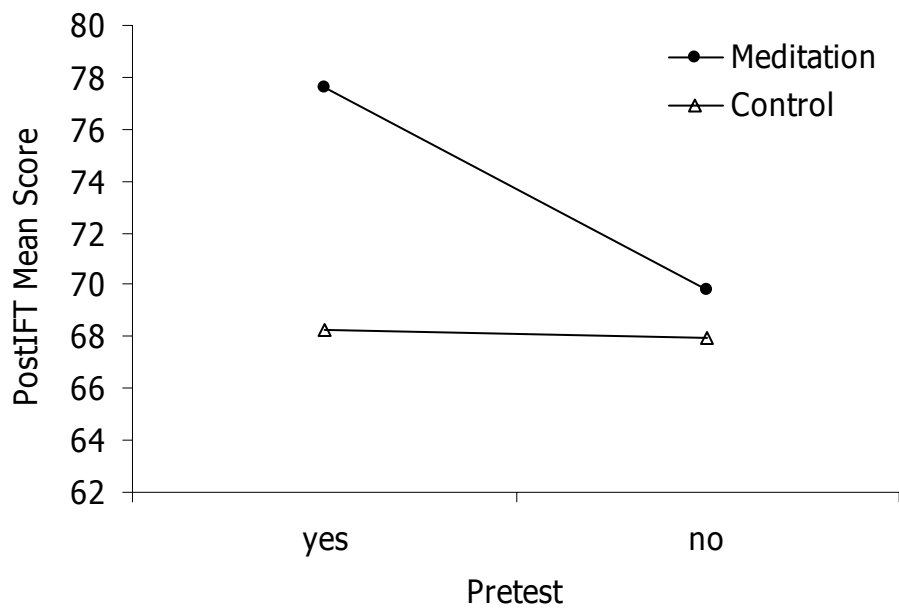*Note:* IFT: higher mean scores indicate more favorable impression of the target person.

Figure 17. Experiment 2: Solomon Four-Group experimental design; non-significant interaction between pretest (yes vs. no) and meditation (yes vs. no) on posttest Impression Formation Task mean scores.

Note: The non-significant interaction ($p > .05$) suggests that the two slopes are not significantly different from each other.
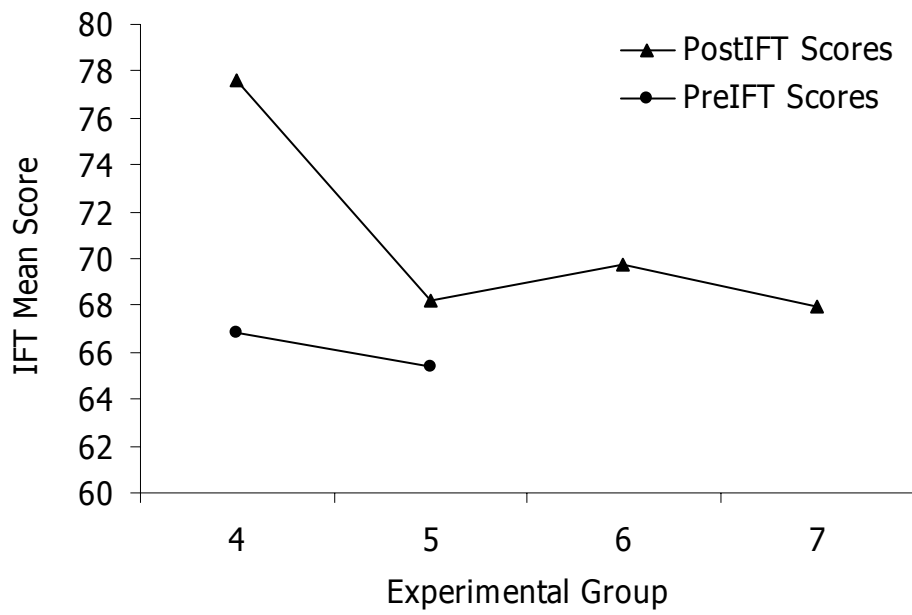
Figure 18. Experiment 2: Pretest Impression Formation Task (IFT) mean scores for experimental groups 4 and 5 and posttest Impression Formation Task mean scores for groups 4, 5, 6, and 7.

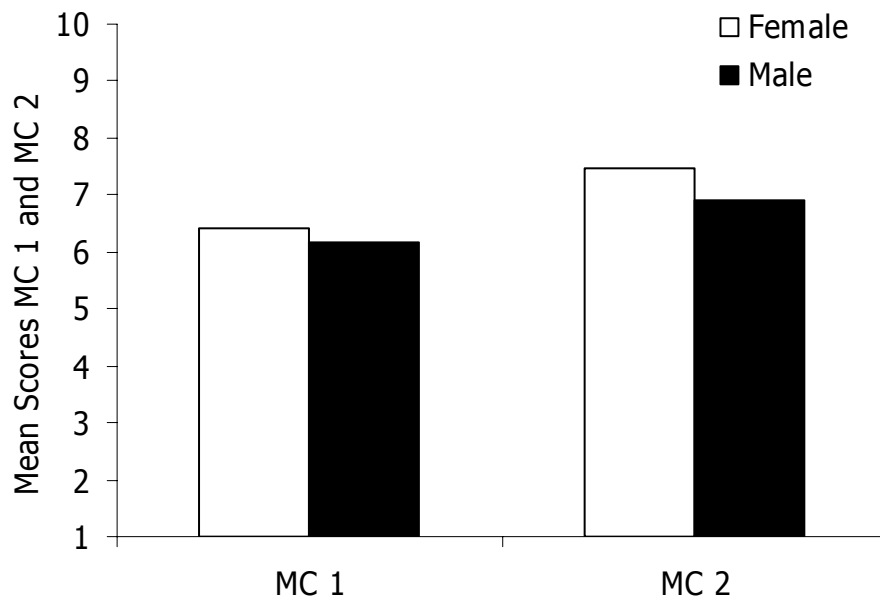*Note:* IFT: higher mean scores indicate more favorable impression of the target person.

Figure 19. Experiment 2: Gender differences of mean scores on Manipulation Check 1

and Manipulation Check 2.

Note: MC 1: Manipulation Check 1, rating to the question "how much compassion do you feel right now?"

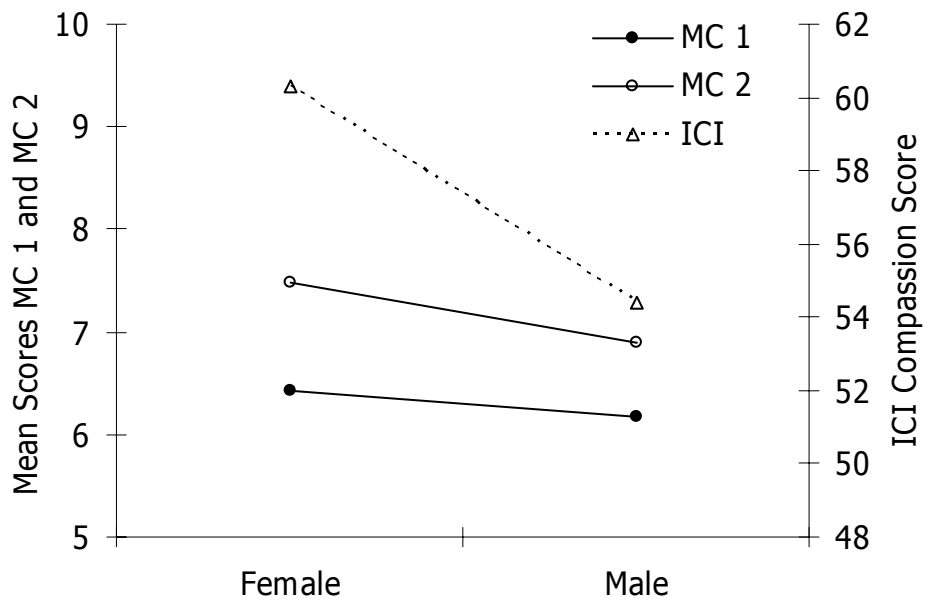MC 2: Manipulation Check 2, rating to the question "how much compassion do you feel in general?"

Figure 20. Experiment 2: Gender differences of mean scores on Manipulation Check 1,

Manipulation Check 2, and ICI compassion subscale scores.

Note: MC 1: Manipulation Check 1, rating to the question "how much compassion do you feel right now?"

MC 2: Manipulation Check 2, rating to the question "how much compassion do you feel in general?"

ICI: Instrumental Caring Inventory, Compassion subscale.

APPENDIX A

MANIPULATION CHECK 1 AND 2

Manipulation Check 1 and 2

Additional questions on levels of experienced compassion.

1. On the scale below, please rate how much compassion you are feeling right now.

   1   2   3   4   5   6   7   8   9   10

   none   very much

2. On the scale below, please rate how compassionate you are most of the time.

   1   2   3   4   5   6   7   8   9   10

   none   very much

APPENDIX B

MINDFULNESS MEDITATION – TRANSCRIPT

Mindfulness Meditation – Transcript

Welcome to our meditation

Please sit back in a comfortable position
Close your eyes
And take a deep breath
Breathe in and breathe out
Sit comfortably and relax
Readjust your position if you like
And focus on your breathing
Breathe in and breathe out

I will repeat a number of short phrases for you
Keep your eyes closed
Feel your breathing
Listen to my words and think about yourself

May I be free from suffering
May I find my joy
May I be filled with love
May I be at peace

Focus on your breathing
Breathe in and breathe out
Now that you have been thinking about yourself,
Please think about another person,
A benefactor
For example, a parent, or a teacher,
Or somebody who guides you and wishes you well.
Think of this person's name
Then picture this person in your head
Listen to my words while you think about this person

May my benefactor be free from suffering
May my benefactor find his/her joy
May my benefactor be filled with love
May my benefactor be at peace

Again, focus on your breathing
Breathe in and breathe out
Gently pull your mind toward a good friend of yours
Think of your friend's name
Then picture your friend in your head

Listen to my words while you think about your friend

May my good friend be free from suffering.
May my good friend find his/her joy.
May my good friend be filled with love.
May my good friend be at peace.

Please stay focused on your breathing
Take a breath and breathe out
Invite your mind to shift focus.
Think about a neutral person.
A person you have no particular feelings about.
For example, a classmate, or a neighbor.
Think of this person's name.
Then picture this person in your head.
Listen to my words and think about this person

May the neutral person be free from suffering.
May the neutral person find his/her joy.
May the neutral person be filled with love.
May the neutral person be at peace.

Again, focus on your breathing
Breathe in and breathe out
Gently pull your mind toward a person whom you experience difficulties with.
For example, somebody with whom you don't seem to be able to get along.
Think of this difficult person's name
Then picture this person in your head
Listen to my words while you think about this difficult person

May the difficult person be free from suffering.
May the difficult person find his/her joy.
May the difficult person be filled with love.
May the difficult person be at peace.

Take another deep breath,
Breathe in and breathe out
Now please think about all beings in the world.
All beings in this room, outside, on campus, in different states, on different continents.
All beings in the world.

May all beings in the world be free from suffering.
May all beings in the world find their joy.

May all beings in the world be filled with love.
May all beings in the world be at peace.

Take another deep breath
Breathe in and breathe out.
Please gently when you are ready
Invite yourself to come back to this room
When you are ready open your eyes
When you are ready readjust your position
And become aware of your surroundings.

Thank you very much.

APPENDIX C

ALTERED MEDITATION – TRANSCRIPT

Altered Mindfulness Meditation (Group 2) – Transcript

Welcome to our meditation

Please sit back in a comfortable position
Close your eyes
And take a deep breath
Breathe in and breathe out
Sit comfortably and relax
Readjust your position if you like
And focus on your breathing
Breathe in and breathe out

I will repeat a number of short phrases for you
Keep your eyes closed
Feel your breathing
Listen to my words and think about yourself

May I be free from suffering
May I find my joy
May I be filled with love
May I be at peace

Focus on your breathing
Breathe in and breathe out
Listen to my words and think about yourself

May I be free from suffering
May I find my joy
May I be filled with love
May I be at peace

Again, focus on your breathing
Breathe in and breathe out
Listen to my words.

May I be free from suffering
May I find my joy
May I be filled with love
May I be at peace

Please stay focused on your breathing
Take a breath and breathe out

Listen to my words.

May I be free from suffering
May I find my joy
May I be filled with love
May I be at peace

Take another deep breath,
Breathe in and breathe out.
Listen to my words.

May I be free from suffering
May I find my joy
May I be filled with love
May I be at peace

Take another deep breath,
Breathe in and breathe out.

Please gently when you are ready
Invite yourself to come back to this room
When you are ready open your eyes
Readjust your position
And become aware of your surroundings.

Thank you very much.

APPENDIX D

ATTENTION TASK

Attention Task (Control group):

Instructions:
Check whether the symbol on the left side of the row is also among the three symbols in the middle of the row. If yes, mark 'Y,' if not, mark 'N.'

Example:

| ◇ | | ◇ | ▲ | ☐ | Y | <u>N</u> |
| ★ | | ▲ | ★ | ★ | <u>Y</u> | N |

Begin here:

●		◢	▲	◉	Y	N
▣		▣	▣	◈	Y	N
◗		✦	✳	○	Y	N
◣		☐	▣	✖	Y	N
◉		◈	⊙	◯	Y	N
◇		○	●	◣	Y	N
○		☐	▣	✖	Y	N
✳		★	◈	☾	Y	N
◗		☽	◖	▣	Y	N

				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N

				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N
				Y	N

▣	■	◇	▣	Y	N
◉	✶	◉	★	Y	N
✦	▲	■	✦	Y	N
✳	★	✳	★	Y	N
◈	▣	◇	▣	Y	N
◖	◖	✕	✚	Y	N
◈	◈	▣	■	Y	N
▲	◇	★	▲	Y	N
◉	✶	□	▣	Y	N
▼	◣	▲	▼	Y	N
✕	○	✚	◉	Y	N
●	▣	◈	●	Y	N
▣	▣	□	▣	Y	N
◣	▲	◈	▼	Y	N
○	◉	◉	◯	Y	N

Y N
Y N
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Y N

APPENDIX E

ADDITIONAL MANIPULATION CHECK

Additional Manipulation Check

1. To what extent did you feel engaged in this exercise? Please rate:

   1   2   3   4   5   6   7   8   9   10

   not at all   very much

2. Please write down the first names of the people you focused on during the exercise

   and rate how well you were able to focus on each:

   benefactor: _____

   1   2   3   4   5   6   7   8   9   10

   not at all   very much

   good friend: _____

   1   2   3   4   5   6   7   8   9   10

   not at all   very much

   neutral person: _____

   1   2   3   4   5   6   7   8   9   10

   not at all   very much

   difficult person: _____

   1   2   3   4   5   6   7   8   9   10

   not at all   very much

3. Were there any parts of the meditation that were difficult for you?

   Yes ☐   No ☐

If so, please describe:

_____

_____

APPENDIX F

DEMOGRAPHIC QUESTIONNAIRE

Demographic Questionnaire

Gender: Female   ☐

            Male   ☐

Age: _____

Ethnicity: African American   ☐

            Anglo American   ☐

            Asian American   ☐

            Hispanic   ☐

            Native American   ☐

            Other _____

Declared/Intended Major: _____

Career Goals: _____

GPA (high school): _____   GPA (college): _____

Religion you were first educated in: _____

Current religion or spiritual orientation: _____

Prior experience with meditation: Yes   ☐

                                  No   ☐

      If YES: I meditate: Daily   ☐

                          Weekly   ☐

                          Monthly   ☐

                          Less than once a month   ☐

APPENDIX G

INSTRUCTIONS FOR RUNNING EXPERIMENT 1

Group 1 – instructions for running experiment 1:

Before the participants get there:
1. Make sure you have the CD labeled **Meditation Group 1** in the CD player. (There is an open-close button which will make the front of the player slide upward.)
2. Check your envelopes one more time, to see if all necessary paper work is in them.
3. Prepare clipboards and pencils.

Once people have arrived wait no longer than 5 minutes should not everybody who signed up be there yet.
Post the "do not disturb" sign on the door, and close the door.
Give every person an envelope (with an encircled "1" on it), a clipboard, and a pencil.

Welcome the participants to the study:
- State your name
- State the name of the experiment: **Attention and Human Relationships**
- Ask the participants to take out all forms from the envelope.
- Tell them to look at the first form, the **Consent Form** and say that you will just briefly go over this form.
    - Ask them to fill in their name, and tell them what date it is today.
    - List the following highpoints of the consent form:
    - They will first be doing a meditation and then fill out some
questionnaires.
        There are no foreseeable risks involved in this study, should they have concerns, however, they should contact the principal investigator (Karina).
    - Should they feel uncomfortable with the experiment, they can leave at any time, without any penalties.
- Ask if they have any questions.
- Tell them to put the clipboard and all papers down on the floor.

You will start the meditation at this point. Tell them that they can scratch themselves if they feel the need, or shift in their seats. (Sit down in the corner, and try to be very quiet, to not disturb them in their meditation.) After approximately 12 minutes, the player will stop.

- At this point tell the participants that they should pick up the clipboard and their papers again, and start filling out the questionnaires in the order they are.
- Before they start, remind them of the following:

Please be as honest as you can, and don't try to answer the questions in a way you might think they should be answered. Just be honest.

When they are finished, ask if they have answered all questions and filled out every questionnaire.

Inform them, that this study was actually looking at their sense of compassion, and the meditation was designed to elicit that feeling.

Inform them, that they will please not tell their peers that this is about compassion, because should others want to participate, they should not know this beforehand.

Ask if they have any questions (direct them to me, if necessary).

Thank them for their participation, and dismiss them.

Group 2 – Instructions for running experiment 1:

Before the participants get there:
1. Make sure you have the CD labeled **Meditation Group 2** in the CD player. (There is an open-close button which will make the front of the player slide upward.)
2. Check your envelopes one more time, to see if all necessary paper work is in them.
3. Prepare clipboards and pencils.

Once people have arrived wait no longer than 5 minutes should not everybody who signed up be there yet.

Post the "do not disturb" sign on the door, and close the door.

Give every person an envelope (with an encircled "2" on it), a clipboard, and a pencil.

Welcome the participants to the study:
- State your name
- State the name of the experiment: **Attention and Human Relationships**
- Ask the participants to take out all forms from the envelope.
- Tell them to look at the first form, the **Consent Form** and say that you will just briefly go over this form.
  - Ask them to fill in their name, and tell them what date it is today.
  - List the following highpoints of the consent form:
  - They will first be doing a meditation and then fill out some questionnaires.
    There are no foreseeable risks involved in this study, should they have concerns, however, they should contact the principal investigator (Karina).
  - Should they feel uncomfortable with the experiment, they can leave at any time, without any penalties.
- Ask if they have any questions.

- Tell them to put the clipboard and all papers down on the floor.

You will start the meditation at this point. Tell them that they can scratch themselves if they feel the need, or shift in their seats. (Sit down in the corner, and try to be very quiet, to not disturb them in their meditation.) After approximately 6 minutes, the player will stop.

- At this point tell the participants that they should pick up the clipboard and their papers again, and start filling out the questionnaires in the order they are.
- Before they start, remind them of the following:
  Please be as honest as you can, and don't try to answer the questions in a way you might think they should be answered. Just be honest.

When they are finished, ask if they have answered all questions and filled out every questionnaire.

Inform them, that they were in the control group of this study, and that we are actually looking at their sense of compassion. The meditation was altered to not elicit that feeling of compassion.

Inform them, that they will please not tell their peers that this is about compassion, because should any of the other students want to participate, they should not know this beforehand.

Ask if they have any questions (direct them to me, if necessary).

Thank them for their participation, and dismiss them.

Group 3 – Instructions for running experiment 1:

Before the participants get there:
1. Check your envelopes one more time, to see if all necessary paper work is in them.
2. Add the "cloud development" papers in the envelopes, right behind the attention task (with the funny symbols)
3. Prepare clipboards and pencils.

Once people have arrived wait no longer than 5 minutes should not everybody who signed up be there yet.

Post the "do not disturb" sign on the door, and close the door.

Give every person an envelope (with an encircled "3" on it), a clipboard, and a pencil.

Welcome the participants to the study:
- State your name
- State the name of the experiment: **Attention and Human Relationships**
- Ask the participants to take out all forms from the envelope.

- Tell them to look at the first form, the **Consent Form** and say that you will just briefly go over this form.
  - Ask them to fill in their name, and tell them what date it is today.
  - List the following highpoints of the consent form:
  - They will first be doing a meditation and then fill out some questionnaires.

    There are no foreseeable risks involved in this study, should they have concerns, however, they should contact the principal investigator (Karina).
  - Should they feel uncomfortable with the experiment, they can leave at any time, without any penalties.
- Ask if they have any questions.

- At this point tell the participants that they will start with an attention task.
- After that they will have to read something and then they have to fill out the questionnaires in the order they are.
- Before they start, remind them of the following:

  Please be as honest as you can, and don't try to answer the questions in a way you might think they should be answered. Just be honest.

When they are finished, ask if they have answered all questions and filled out every questionnaire.

Inform them, that they were in the control group of this study, and that we are actually looking at their sense of compassion.

Inform them, that they will please not tell their peers that this is about compassion, because should any of the other students want to participate, they should not know this beforehand.

Ask if they have any questions (direct them to me, if necessary).

Thank them for their participation, and dismiss them.

APPENDIX H

INSTRUCTIONS FOR RUNNING EXPERIMENT 2

Group 4 – Instructions for running experiment 2:

Before the participants get there:
1. Make sure you have the CD labeled **Meditation Group 4 & 6** in the CD player. (There is an open-close button which will make the front of the player slide upward.)
2. Check your envelopes one more time, to see if all necessary paper work is in them.
3. Prepare clipboards and pencils.
4. Prepare cardboards with photographs (keep them in one pile, face down)

Once people have arrived wait no longer than 5 minutes should not everybody who signed up be there yet.
Post the "do not disturb" sign on the door, and close the door.
Give every person an envelope (with an encircled "4" on it), a clipboard, and a pencil.

Welcome the participants to the study:
- State your name
- State the name of the experiment: **Capacity to Gauge Personality Characteristics**
- Ask the participants to take out all forms from the envelope.
- Tell them to look at the first form, the **Consent Form** and say that you will just briefly go over this form.
    - Ask them to fill in their name, and tell them what date it is today.
    - List the following highpoints of the consent form:
    - They will first look at a photograph and then fill out one questionnaire.
    - Then they will be doing a meditation and then fill out some more questionnaires.
      There are no foreseeable risks involved in this study, should they have concerns, however, they should contact the principal investigator (Karina).
    - Should they feel uncomfortable with the experiment, they can leave at any time, without any penalties.
- Ask if they have any questions.
- Pass out the cardboard pieces with the photographs, face down. Give one to each participant. Tell them to wait until you tell them to turn the piece of cardboard around. When every person has one board, ask them to turn the picture around and look at it for 10 seconds.
- Count the seconds (on the wrist watch next to the CD player). After 10 seconds ask them to put the picture face down on the floor.
- Ask the participants to fill out the first page of the package they were given, and ask them to not go any further.

Before they start, remind them of the following:

> **Please be as honest as you can, and don't try to answer the questions in a way you might think they should be answered. Just be honest.**

- When all are finished with the first questionnaire, tell them to put the clipboard and all papers down on the floor.

You will start the meditation at this point. Tell them that they can scratch themselves if they feel the need, or shift in their seats. (Sit down in the corner, and try to be very quiet, to not disturb them in their meditation.) After approximately 12 minutes, the CD player will stop.

- At this point ask the participants to pick up the cardboard with the picture again, and keep it in their hands face down.
- Tell them to turn the picture around and look at it for another 10 seconds. After 10 seconds ask them to put the picture on the floor face down again.
- Then tell the participants that they should pick up the clipboard and their papers again.
- Tell them to fill out the next page in their package and also tell them that "**this experiment is not about how well you remember your first ratings, just rate the person how you perceived her just now.**"
- Tell them to start filling out the rest of the questionnaires in the order they are.

When they are finished, ask if they have answered all questions and filled out every questionnaire.
Inform them, that this study was actually looking at how compassion influences our judgment of people, and the meditation was designed to elicit compassion.
Inform them, that they will please not tell their peers that this is about compassion and social judgment, because should they want to participate, they should not know this beforehand.
Ask if they have any questions (direct them to me, if necessary).
Thank them for their participation, and dismiss them.

Group 5 – Instructions for running experiment 2:

Before the participants get there:
1. Check your envelopes one more time, to see if all necessary paper work is in them.
2. Add the "cloud development" papers in the envelopes, right behind the attention task (with the funny symbols)
3. Prepare clipboards and pencils.

Once people have arrived wait no longer than 5 minutes should not everybody who signed up be there yet.
Post the "do not disturb" sign on the door, and close the door.
Give every person an envelope (with an encircled "5" on it), a clipboard, and a pencil.

Welcome the participants to the study:
- State your name
- State the name of the experiment: **Capacity to Gauge Personality Characteristics**
- Ask the participants to take out all forms from the envelope.
- Tell them to look at the first form, the **Consent Form** and say that you will just briefly go over this form.
  - Ask them to fill in their name, and tell them what date it is today.
  - List the following highpoints of the consent form:
  - They will first be doing a meditation and then fill out some questionnaires.
    There are no foreseeable risks involved in this study, should they have concerns, however, they should contact the principal investigator (Karina).
  - Should they feel uncomfortable with the experiment, they can leave at any time, without any penalties.
- Ask if they have any questions.
- At this point pass out the cardboard pieces with the photographs, face down. Give one to each participant. Tell them to wait until you tell them to turn the piece of card board around. When every person has one board, ask them to turn the picture around and look at it for 10 seconds.
- Count the seconds (on the wrist watch next to the CD player). After 10 seconds ask them to put the picture face down on the floor.
- Ask the participants to fill out the first page of the package they were given, and ask them to not go any further.

Before they start, remind them of the following:
> **Please be as honest as you can**, **and don't try to answer the questions in a way you might think they should be answered. Just be honest**.

- At this point tell the participants that they will start with an attention task.
- After that they will have to read something. Tell them after they are done with the reading they should stop and put the papers and the clipboard down on the floor.
- At this point ask the participants to pick up the card board with the picture again, and keep it in their hands face down.
- Tell them to turn the picture around and look at it for another 10 seconds. After 10 seconds ask them to put the picture on the floor face down again.

- Then tell the participants that they should pick up the clipboard and their papers again.
- Tell them to fill out the next page in their package and also tell them that "**this experiment is not about how well you remember your first ratings**, **just rate the person how you perceived her just now.**"
- Tell the participants that they go ahead and fill out the rest of the questionnaires in the order they are.

When they are finished, ask if they have answered all questions and filled out every questionnaire.
Inform them, that they were in the control group of this study, and that we are actually looking at how people's judgment is influenced by their sense of compassion.
Inform them, that they will please not tell their peers that this is about compassion and social judgment, because should any of the other students want to participate, they should not know this beforehand.
Ask if they have any questions (direct them to me, if necessary).
Thank them for their participation, and dismiss them.

Group 6 – Instructions for running experiment 2:

Before the participants get there:
1. Make sure you have the CD labeled **Meditation Group 4 & 6** in the CD player. (There is an open-close button which will make the front of the player slide upward.)
2. Check your envelopes one more time, to see if all necessary paper work is in them.
3. Prepare clipboards and pencils.
4. Prepare cardboards with photographs (keep them in one pile, face down)

Once people have arrived wait no longer than 5 minutes should not everybody who signed up be there yet.
Post the "do not disturb" sign on the door, and close the door.
Give every person an envelope (with an encircled "6" on it), a clipboard, and a pencil.

Welcome the participants to the study:
- State your name
- State the name of the experiment: **Capacity to Gauge Personality Characteristics**
- Ask the participants to take out all forms from the envelope.
- Tell them to look at the first form, the **Consent Form** and say that you will just briefly go over this form.
  - Ask them to fill in their name, and tell them what date it is today.
  - List the following highpoints of the consent form:

- They will first look at a photograph and then fill out one questionnaire.
  - Then they will be doing a meditation and then fill out some more questionnaires.
    There are no foreseeable risks involved in this study, should they have concerns, however, they should contact the principal investigator (Karina).
  - Should they feel uncomfortable with the experiment, they can leave at any time, without any penalties.
- Ask if they have any questions.

- You will start the meditation at this point. Tell them that they can scratch themselves if they feel the need, or shift in their seats. (Sit down in the corner, and try to be very quiet, to not disturb them in their meditation.) After approximately 12 minutes, the CD player will stop.
- Pass out the cardboard pieces with the photographs, face down. Give one to each participant. Tell them to wait until you tell them to turn the piece of cardboard around. When every person has one board, ask them to turn the picture around and look at it for 10 seconds.
- Count the seconds (on the wrist watch next to the CD player). After 10 seconds ask them to put the picture face down on the floor.
- Ask the participants to fill out the first page of the package they were given, and then they should keep on going.

Before they start, remind them of the following:

> **Please be as honest as you can, and don't try to answer the questions in a way you might think they should be answered. Just be honest.**

When they are finished, ask if they have answered all questions and filled out every questionnaire.
Inform them, that this study was actually looking at how compassion influences our judgment of people, and the meditation was designed to elicit compassion.
Inform them, that they will please not tell their peers that this is about compassion and social judgment, because should others want to participate, they should not know this beforehand.
Ask if they have any questions (direct them to me, if necessary).
Thank them for their participation, and dismiss them.

Group 7 – Instructions for running experiment 2:

Before the participants get there:
1. Check your envelopes one more time, to see if all necessary paper work is in them.

2. Add the "cloud development" papers in the envelopes, right behind the attention task (with the funny symbols)
3. Prepare clipboards and pencils.

Once people have arrived wait no longer than 5 minutes should not everybody who signed up be there yet.
Post the "do not disturb" sign on the door, and close the door.
Give every person an envelope (with an encircled "7" on it), a clipboard, and a pencil.

Welcome the participants to the study:
- State your name
- State the name of the experiment: **Capacity to Gauge Personality Characteristics**
- Ask the participants to take out all forms from the envelope.
- Tell them to look at the first form, the **Consent Form** and say that you will just briefly go over this form.
    - Ask them to fill in their name, and tell them what date it is today.
    - List the following highpoints of the consent form:
    - They will first be doing a meditation and then fill out some questionnaires.
        There are no foreseeable risks involved in this study, should they have concerns, however, they should contact the principal investigator (Karina).
    - Should they feel uncomfortable with the experiment, they can leave at any time, without any penalties.
- Ask if they have any questions.

- At this point tell the participants that they will start with an attention task.
- After that they will have to read something. Tell them after they are done with the reading they should stop and put the papers and the clipboard down on the floor.

- At this point pass out the cardboard pieces with the photographs, face down. Give one to each participant. Tell them to wait until you tell them to turn the piece of cardboard around. When every person has one board, ask them to turn the picture around and look at it for 10 seconds.
- Count the seconds (on the wrist watch next to the CD player). After 10 seconds ask them to put the picture face down on the floor.
- Ask the participants to fill out the next page of the package they were given (ift), and ask them to go on and fill out the rest of the questionnaires.

Before they start, remind them of the following:

Please be as honest as you can, and don't try to answer the questions in a way you might think they should be answered. Just be honest.

When they are finished, ask if they have answered all questions and filled out every questionnaire.
Inform them, that they were in the control group of this study, and that we are actually looking at how people's judgment is influenced by their sense of compassion.
Inform them, that they will please not tell their peers that this is about compassion and social judgment, because should any of the other students want to participate, they should not know this beforehand.
Ask if they have any questions (direct them to me, if necessary).
Thank them for their participation, and dismiss them.

APPENDIX I

CONSENT FORMS

University of North Texas
Institutional Review Board
Research Consent Form

Subject Name [   ]   **Date** [   ]

Title of Study Attention and Human Relationships: An Experiment
Principal Investigator Karina K. Raina, MS
Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose and benefits of the study and how it will be conducted.

Purpose of the Study
The purpose of this study is to understand attention and its role in human relationships.

Description of the Study
Participating in this study involves taking part in an attention exercise, and completing three pencil and paper questionnaires. Although participation time varies from person to person, the whole study should take about 30 to 45 minutes.

Procedures to be used
The project consists of an attention exercise and three questionnaires. One questionnaire consists of questions designed to gather demographical information, which will take approximately 5 minutes to complete. The second and third questionnaires cover a broad range of items about your thoughts, feelings, and actions. These two questionnaires take about 12 minutes each to complete.

Description of the foreseeable risks
Foreseeable risks are minimal and not expected to go beyond possible emotional discomfort involved with sensitive issues. Your participation in the study is voluntary, and you may discontinue at any time with no repercussions. If you experience any uncomfortable emotions that persist after the study is completed, you may call the UNT Counseling and Testing Center between 8 a.m. and 5 p.m. at (940) 565-2741. The Counseling and Testing Center provides free counseling to UNT students.

Benefits to the subjects or others
Your participation in this study could increase your own awareness of how you pay attention to details as well as daily activities. Your honest responses will help us further understand the relationships between attention and human relationships. This knowledge will allow for further development of psychological treatment.

Procedures for Maintaining Confidentiality of Research Records
This study has been designed to insure that participants' personal identities and responses are kept anonymous. Each form/questionnaire has been uniquely coded so that responses on the self-report questionnaires are associated only with this code. The code number will be placed at the top of each questionnaire, and no material other than consent forms will contain names or other identifying information. Research materials will be stored in a locked file cabinet at the University of North Texas. The

consent forms will be securely stored separately from the questionnaires, and are retained for 3 years per federal regulation. After the data has been entered into the computer, all research materials, except consent forms, will be destroyed. Consent forms will be destroyed after 3 years. The data collected will not be shared with any individuals or agencies, and will only be used for training or research purposes. It is anticipated that the research will be published in a psychological journal; however, names and other identifying information will not be included in any publication of the data collected in this study.

Review for the Protection of Participants

This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 or sbourns@unt.edu with any questions regarding the rights of research subjects.

Research Subject's Rights

I have read or have had read to me all of the above. The research assistant has explained the study to me and answered all of my questions. I have been told the risks and/or discomforts as well as the possible benefits of the study.

I understand that I do not have to take part in this study and my refusal to participate or my decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop my participation at any time.

In case I have any questions about the study, I have been told I can contact Karina K. Raina or Dr. Michael J. Mahoney, The UNT Department of Psychology at telephone number (940) 565-3289.

I understand my rights as research subject and I voluntarily consent to participate in this study. I understand what the study is about, how the study is conducted, and why it is being performed. I have been told I will receive a signed copy of this consent form.

_____   _____

Signature of Subject   Date

For the Investigator or Designee:

I certify that I have reviewed the contents of this form with the subject signing above. I have explained the known benefits and risks of the research. It is my opinion that the subject understood the explanation.

_____   _____

Signature of Principal Investigator   Date

University of North Texas
Institutional Review Board
Research Consent Form

Subject Name [_____] **Date** [_____]

Title of Study Capacity to Gauge Personality Characteristics: An Experiment
Principal Investigator Karina K. Raina, MS
Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose and benefits of the study and how it will be conducted.

Purpose of the Study
The purpose of this study is to understand people's capacity to gauge someone's personality characteristic in relation to attention and human relationships.

Description of the Study
Participating in this study involves looking at a photograph, taking part in an attention exercise, and completing five pencil and paper questionnaires. Although participation time varies from person to person, the whole study should take about 45 to 60 minutes.

Procedures to be used
You will be shown a photograph of a human face and then you will be asked to rate this person's characteristics. The project also consists of an attention exercise and four additional questionnaires. The questionnaires consist of questions designed to gather demographical information. The questionnaires also cover a broad range of items about your thoughts, feelings, and actions. These questionnaires take about 12 minutes each to complete.

Description of the foreseeable risks
Foreseeable risks are minimal and not expected to go beyond possible emotional discomfort involved with sensitive issues. Your participation in the study is voluntary, and you may discontinue at any time with no repercussions. If you experience any uncomfortable emotions that persist after the study is completed, you may call the UNT Counseling and Testing Center between 8 a.m. and 5 p.m. at (940) 565-2741. The Counseling and Testing Center provides free counseling to UNT students.

Benefits to the subjects or others
This study could help increasing your understanding of your capacity to gauge another person's personality characteristics. It may also help researchers to better understand the relationship between people's capacity to gauge personality characteristics and attention combined with human relationships.

Procedures for Maintaining Confidentiality of Research Records
This study has been designed to insure that participants' personal identities and responses are kept anonymous. Each form/questionnaire has been uniquely coded so that responses on the self-report questionnaires are associated only with this code. The code number will be placed at the top of each questionnaire, and no material other than consent forms will contain names or other identifying information. Research

materials will be stored in a locked file cabinet at the University of North Texas. The consent forms will be securely stored separately from the questionnaires, and are retained for 3 years per federal regulation. After the data has been entered into the computer, all research materials, except consent forms, will be destroyed. Consent forms will be destroyed after 3 years. The data collected will not be shared with any individuals or agencies, and will only be used for training or research purposes. It is anticipated that the research will be published in a psychological journal; however, names and other identifying information will not be included in any publication of the data collected in this study.

Review for the Protection of Participants

This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 or sbourns@unt.edu with any questions regarding the rights of research subjects.

Research Subject's Rights

I have read or have had read to me all of the above. The research assistant has explained the study to me and answered all of my questions. I have been told the risks and/or discomforts as well as the possible benefits of the study.

I understand that I do not have to take part in this study and my refusal to participate or my decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop my participation at any time.

In case I have any questions about the study, I have been told I can contact Karina K. Raina or Dr. Michael J. Mahoney, The University of North Texas, Department of Psychology at telephone number (940) 565-3289.

I understand my rights as research subject and I voluntarily consent to participate in this study. I understand what the study is about, how the study is conducted, and why it is being performed. I have been told I will receive a signed copy of this consent form.

_____   _____
Signature of Subject   Date

For the Investigator or Designee:

I certify that I have reviewed the contents of this form with the subject signing above. I have explained the known benefits and risks of the research. It is my opinion that the subject understood the explanation.

_____   _____
Signature of Principal Investigator   Date

APPENDIX J

PLAN FOR EXPERIMENTS

Plan for Experiment 1

Experiment 1		
Group 1	Group 2	Group 3
Consent Form A	Consent Form A	Consent Form A
Meditation	Altered Meditation	Attention Task Cloud Development
Scales: ICI MAAS Manipulation Check	Scales: ICI MAAS Short Manipulation Check	Scales: ICI MAAS Short Manipulation Check
Demographic Questionnaire	Demographic Questionnaire	Demographic Questionnaire

Note: Packages included the consent form, scales and demographic questionnaires, see Appendix A, and

I. For group 3 the attention task and the information on cloud development was also included, see

Appendix D. Participants completed the experiment in groups of 1 person to 9 people.

Plan for Experiment 2

Experiment 2			
Group 4	**Group 5**	**Group 6**	**Group 7**
Consent Form B	Consent Form B	Consent Form B	Consent Form B
Impression Formation Task A	Impression Formation Task A		
Meditation	Attention Task Cloud Development	Meditation	Attention Task Cloud Development
Impression Formation Task B	Impression Formation Task B	Impression Formation Task B	Impression Formation Task B
Scales: ICI MAAS Manipulation Check	Scales: ICI MAAS Short Manipulation Check	Scales: ICI MAAS Manipulation Check	Scales: ICI MAAS Short Manipulation Check
Demographic Questionnaire	Demographic Questionnaire	Demographic Questionnaire	Demographic Questionnaire

Note: Packages included the consent form, scales and demographic questionnaires, see Appendix A, and I. For groups 5 and 7 the attention task and the information on cloud development was also included, see Appendix H. Participants completed the experiment in groups of 1 person to 9 people.

REFERENCES

Abele, A. E. & Petzold, P. (1998). Pragmatic use of categorical information in impression

formation. *Journal of Personality and Social Psychology, 75*(2), 347-358.

American Psychological Association. (2002). Ethical principles of psychologists and code

of conduct. *American Psychologist, 57*, 1060-1073.

Asch, S. E. (1946). Forming impressions of personality. *Journal of Abnormal and Social*

Psychology, 41, 258-290.

Astin, J. A. (1997). Stress reduction through mindfulness meditation: Effects on

psychological symptomatology, sense of control, and spiritual experiences.

Psychotherapy and Psychosomatics, 66(2), 97-106

Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and

empirical review. *Clinical Psychology, 10,* 124-143.

Batson, C. D. (1987). Prosocial motivation: Is it ever truly altruistic? In L. Berkowitz

(Ed.). *Advances in experimental social psychology* (Vol. 20, pp. 65-122). San

Diego, CA: Academic Press.

Batson, C. D., Batson, J. G., Slingsby, J. K., Harrell, K. L., Peekna, H. M., &

Todd, R. M. (1991). Empathic Joy and the empathy-altruism hypothesis. *Journal*

of Personality and Social Psychology, 61(3), 413-426.

Batson, C. D., Duncan, B. D., Acherman, P., Buckley, T., & Birch, K. (1981). Is empathic

emotion a source of altruistic motivation? *Journal of Personality and Social*

Psychology, 40, 290-302.

Batson, C. D., Dyck, J. L., Brandt, J. R., Batson, J, G., Powell, A. L., et al. (1988). Five

   studies testing two new egoistic alternatives to the empathy-altruism hypothesis.

   Journal of Personality and Social Psychology, 55 (1), 52-77.

Batson, C. D., Klein, T. R., Highberger, L., & Shaw, L. L. (1995). Immorality from

   empathy-induced altruism: When compassion and justice conflict. *Journal of*

   Personality and Social Psychology, 68, 1042-1054.

Benjamin, L. T., Jr. (Ed.). (1992). The history of American psychology [Special Issue].

   American Psychologist, 47(2).

Berscheid, E. (1990). Contemporary vocabularies of emotion. In B. S. Moore

   & A. M. Isen (Eds.), *Affect and social behavior* (pp. 22-38). New York: Cambridge

   University Press.

Berscheid, E., & Walster, E. (1974). Physical attractiveness. In L. Berkowitz (Ed.),

   Advances in experimental social psychology (Vol. 7, pp. 157-215). San Diego,

   CA: Academic Press.

Beutel, A. M., & Marini, M. M. (1995). Gender and values. *American Sociological*

   Review, 60, 436-448.

Bishop, S. R., Lau, M., Shapiro, S. L., Carlson, L., & Anderson, N. D. (2004).

   Mindfulness: A proposed operational definition. *Clinical Psychology: Science and*

   Practice, 11, 230-241.

Bless, H., Bohner, G., Schwarz, N., & Strack, F. (1990). Mood and persuasion: A

   cognitive response analysis. *Personality and Social Psychology, 16,* 331-345.

Bloom, P. (2000). *Buddhist Acts of Compassion.* Berkley, CA: Conari Press.

Blum, L. (1980). Compassion. In A. O. Rorty (Ed.), *Explaining emotions* (pp. 507-517). Berkely, CA: University of California Press.

Bodenhausen, G. V., Sheppard, L. A., & Kramer, G. P. (1994). Negative affect and social judgment: the differential impact of anger and sadness. *European Journal of Social Psychology, 24,* 45-62.

Bogart, G. (1991). Meditation and psychotherapy: A review of the literature. *American Journal of Psychotherapy,45*(3), 383-412.

Boorstein, S. (1996). Clinical aspects of meditation. In B. W. Scotton, A. B. Chinnen, & J. R. Battista (Eds.), *Textbook of Transpersonal Psychiatry and Psychology* (pp. 344-354). New York: Basic Books.

Bower, G. H. (1981). Mood and memory. *American Psychologist, 36*, 129-148.

Bower, G. H. (1991). Mood congruity of social judgments. In J. P. Forgas (Ed.), *Emotion and social judgments* (pp. 31-53). Elmsford, NY: Pergamon Press.

Bower, G. H. & Forgas, J. P. (2001). Mood and social memory. In J. P. Forgas (Ed.). *Handbook of Affect and Social Cognition.* Mahwah, NJ: Lawrence Erlbaum.

Brantley, J. (2003). *Calming your anxious mind: How mindfulness and compassion can free you from anxiety, fear, and panic.* Oakland, CA: Harbinger.

Branscombe, N. (1988). Conscious and unconscious processing of affective and cognitive information. In K. Fiedler & J. P. Forgas (Eds.), *Affect, cognition, and social behavior* (pp. 3-24). Toronto, Ontario, Canada: Hogrefe International.

Braver, M. C. W. & Braver, S. L. (1988). Statistical treatment of the Solomon four-group design: A meta-analytic approach. *Psychological Bulletin, 104*(1), 150-154.

Brown, B. (1999). *Soul without shame: A guide to liberating yourself from the judge within.* Boston: Shambala.

Brown, K. W. & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84,* 822-848.

Brown, K. W. & Ryan, R. M. (2004a). Fostering healthy self-regulation from within and without: A self-determination theory perspective. In P. A. Linley, & S. Joseph (Eds.), *Positive psychology in practice* (105-124). Hoboken, NJ: Wiley.

Brown, K. W. & Ryan, R. M. (2004b). Perils and promise in defining and measuring mindfulness: Observations from experience. *Clinical Psychology: Science and Practice, 11*(3), 242-248.

Campbell, D., & Stanley, J. (1963). *Experimental and quasi-experimental designs for research.* Chicago: Rand McNally.

Carson, J. W., Carson, K. M., Gil, K. M., & Baucom, D. H. (in press). Mindfulness based relationship enhancement. *Behavior Therapy.*

Cassell, E. J. (2002). Compassion. In C. R. Snyder, & S. J. Lopez (Eds.), *Handbook of Positive Psychology* (pp. 434-445). New York: Oxford University Press.

Clark, M. S. & Brissette, I. (2003). Two types of relationship closeness and their influence on people's emotional lives. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith, (Eds.), *Handbook of affective sciences* (pp. 824-835). New York: Oxford University Press.

Cuervorst, R. W., & Stock, W. A. (1978). Comments on the analysis of covariance with repeated measures design. *Multivariate Behavioral Research, 13,* 509-513.

Davidson, R. J., & Harrington, A. (2002). *Visions of compassion: Western scientist and Tibetan Buddhists examine human nature.* New York: Oxford University Press.

Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F., et al. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine, 65*, 564-570.

De Bruin, E. N. M., & Van Lange, P. A. M. (2000). What people look for in others: Influences of the perceiver and the perceived on information selection. *Personality and Social Psychology Bulletin, 26*(2), 206-219.

Depraz, N., Varela, F. J., & Vermersch, P. (2000). The gesture of awareness: An account of its structural dynamics. In *Investigating phenomenal consciousness: New methodologies and maps. Advances in consciousness research,* Vol. 13 (Velmans, M. Ed.), (pp. 121-136). Amsterdam: John Benjamins.

Dépret, E., & Fiske, S. T. (1999). Perceiving the powerful: Intriguing individuals versus threatening groups. *Journal of Experimental Social Psychology, 35*, 461-480.

DeSteno, D., Petty, R. E., Wegener, D. T., & Rucker, D. D. (2000). Beyond valence in the perception of likelihood: The role of emotion specificity. *Journal of Personality and Social Psychology, 78*(3), 397-416.

Dijker, A. J., Tacken, M. A., & van den Borne, B. (2000). Context effects of facial appearance on attitudes toward mentally handicapped persons. *British Journal of Social Psychology, 39*(3), 413-427.

Doherty, R. W. (1998). Emotional contagion and social judgment. *Motivation and Emotion, 22*(3), 187-209.

Donius, M. A. H. (1994). *Instrumental Caring Inventory: The development of an instrument measuring caring as a three-dimensional construct*. Unpublished doctoral dissertation, Columbia University Teachers College. (UMI No. 9511036)

Donne, J. (1624/1994). *Devotions upon emergent occasions: The complete poetry and selected prose of John Donne.* New York: Modern Library. (Original work published 1624).

Dreyfus, G. (2002). Is compassion an emotion? A cross-cultural exploration of mental typologies. In R. J. Davidson & A. Harrington (Eds.), *Visions of compassion: Western scientists and Tibetan Buddhists examine human nature.* New York: Oxford University Press.

Edwards, J. A, Weary, G., von Hippel, W., & Jacobson, J. A. (2000). The effects of depression on impression formation: The role of trait and category diagnosticity. *Personality and Social Psychology Bulletin, 26*(4), 462-473.

Ekman, P. (2003). *Emotions revealed: Recognizing faces and feelings to improve communication and emotional life.* New York: Times Books.

Figley, C. R. (Ed.). (2002). *Treating compassion fatigue.* New York: Brunner-Routledge.

Firestone, R. W., Firestone, L. A., & Catlett, J. (2003). *Creating a life of meaning and compassion: The wisdom of psychotherapy.* Washington, DC: APA.

Fishman, B. M. (2002). *Emotional healing through mindfulness meditation.* Rochester,

VT: Inner Traditions.

Forgas, J. P. (1991). Affect and social judgments: An introductory review. In J. P.

Forgas (Ed.). *Emotion and social judgment* (pp. 3-29). Oxford, UK: Pergamon

Press.

Forgas, J. P. (1992). On mood and peculiar people: Affect and person typicality in

impression formation. *Journal of Personality and Social Psychology, 62*(5), 863-

875.

Forgas, J. P. (2003). Affective influences on attitudes and judgments. In R. J. Davidson,

K. R. Scherer, & H. H. Goldsmith, (Eds.), *Handbook of affective sciences* (pp.

596-618). New York: Oxford University Press.

Forgas, J. P., & Bower, G. H. (1987). Mood effects on person perception judgments.

Journal of Personality and Social Psychology, 53, 53-60.

Fox, M. (1979). *A spirituality named compassion and the healing of the global village,*

Humpty Dumpty and us. San Francisco: Harper & Row.

Friedman, H. S., & Riggio, R. E. (1999). Individual differences in the ability to encode

complex affects. *Personality and Individual Differences, 27,* 181-194.

Gault, B. A., & Sabini, J. (2000). The roles of empathy, anger, and gender in predicting

attitudes toward punitive, reparative, and preventative public policies. *Cognition*

and Emotion, 14(4), 495-520.

Gilbert, P. (Ed.). (in press). *Compassion: Conceptualizations research and use in*

psychotherapy. London: Brunner Routledge.

Gohm, C. L. (2003). Mood regulation and emotional intelligence: Individual differences. *Journal of Personality and Social Psychology, 84*(3), 594-607.

Goldberg, C., & Crespo, V. (2004). *Seeking the compassionate life: The moral crisis for psychotherapy and society.* Westport, CT: Praeger.

Goleman, D. (1988). *The meditative mind: The varieties of meditative experience.* New York: Penguin Putnam.

Goleman, D. (Ed.). (1997). *Healing emotions: Conversations with the Dalai Lama on mindfulness, emotions, and health.* Boston, MA: Shambhala.

Goleman, D. (2003). *Destructive emotions: How can we overcome them?* New York, NY: Bantam Dell.

Gyatso, T. (1995). *The power of compassion* (Geshe Thupten Jinpa, Trans.). New Delhi, India: Harper Collins.

Gyatso, T. (2001). *An open heart: Practicing compassion in everyday life.* New York: Little, Brown and Company.

Haidt, J. (2003). The moral emotions. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith, (Eds.), *Handbook of affective sciences* (pp. 852-870). New York: Oxford University Press.

Hall, S. S. (2003, September 14). Is Buddhism good for your health? *The New York Times.*

Harrington, A. (2002). A science of compassion or a compassionate science? What do

    we expect from a cross-cultural dialogue with Buddhism? In R. J. Davidson & A.

    Harrington (Eds.), *Visions of compassion: Western scientists and Tibetan*

    Buddhists examine human nature (pp. 18-30). New York: Oxford University

    Press.

Harrison, A. (1977). Mere exposure. In L. Berkowitz (Ed.), *Advances in experimental*

    social psychology (Vol. 10, pp. 39-83). San Diego, CA: Academic Press.

Hess, T. M., & Auman, C. (2001). Aging and social expertise: The impact of trait-

    diagnostic information on impressions of others. *Psychology and Aging, 16*(3),

    497-510.

Hess, T. M., Bolstad, C. A., Woodburn, S. M., & Auman, C. (1999). Trait diagnosticity

    versus behavioral consistency as determinants of impression change in

    adulthood. *Psychology and Aging, 14*, 77-89.

Hess, U., Blairy, S., & Kleck, R. E. (2000). The influence of facial emotion displays,

    gender and ethnicity on judgments of dominance and affiliation. *Journal of*

    Nonverbal Behavior, 24(4), 265-283.

Hirst, I. S. (2003). Perspectives of mindfulness. *Journal of Psychiatric and Mental Health*

    Nursing, 10, 359-366.

Hobson, R. F. (1985). *Forms of feeling: The heart of psychotherapy.* London, UK:

    Tavistock Publications.

Howell, D. C. (2002). *Statistical methods for psychology.* Pacific Grove, CA: Duxbury.

Humanist manifestos I and II. (1973). Buffalo, NY: Prometheus Books.

Innes-Ker, Å., & Niedenthal, P. M. (2002). Emotion concepts and emotional states in

    social judgment and categorization. *Journal of Personality and Social Psychology,*

    83(4), 804-816.

Ikegami, T. (2002). State self-esteem as a moderator of negative mood effects on

    person impression. *Journal of Experimental Social Psychology, 38*(1), 1-13.

Jackson, L. A., Lewandowski, D. A., Fleury, R. E., & Chin, P. P. (2001). Effects of affect,

    stereotype consistency, and valence of behavior on causal attributions. *Journal of*

    Social Psychology, 14(1), 31-48.

Jussim, L., Coleman, L., & Nassau, S. (1987). The influence of self-esteem on

    perceptions of performance and feedback. *Social Psychology Quarterly, 50*, 95-99.

Kabat-Zinn, J. (1982). An outpatient program in behavioral medicine for chronic pain

    patients based on the practice of mindfulness meditation: Theoretical

    considerations and preliminary results. *General Hospital Psychiatry, 4*, 33-47.

Kahn, M. (1997). *Between therapist and client.* New York: Freeman.

Keltner, D., Ellsworth, P. C., & Edwards, K. (1993). Beyond simple pessimism: Effects of

    sadness and anger on social perception. *Journal of Personality and Social*

    Psychology, 64(5), 740-752.

Kelly, G. A. (1955). *The psychology of personal constructs.* New York: W. W. Norton.

Khenchen Konchog Gyaltshen Rinpoche. (2001). *Loving kindness and compassion in*

    Buddhism. Retrieved October 31, 2004, from

    http://home.swipnet.se/ratnashri/compassion.htm.

Koch, S., & Leary, D. E. (Eds.). (1985). *A century of psychology as science.* New York: McGraw-Hill.

Kornfield, J. (1993). *A path with heart.* New York: Bantam Books.

Kornfield, J. (2005). *Psychotherapy/meditation: Even the best meditators have old wounds to heal.* Retrieved June 1, 2005, from http://www.buddhanet.net/psymed1.htm

Kristeller, J. L., & Johnson, T. (2005). Cultivating loving kindness: A two-stage model of the effects of meditation on empathy, compassion, and altruism. *Zygon: Journal of Religion and Science, 40,* 391-408.

Kumar, S. M. (2002). An introduction to Buddhism for the cognitive-behavioral therapist. *Cognitive and Behavioral Practice, 9,* 40-43.

Ladner, L. (2004). *The lost art of compassion: Discovering the practice of happiness in the meeting of Buddhism and psychology.* New York: HarperCollins.

Landsman, T., & Clawson, L. (1983). A compassion checklist for children. *Academic Psychology Bulletin, 5*, 281-287.

Lee, J. A., & Murnighan, J. K. (2001). The empathy-prospect model and the choice to help. *Journal of Applied Social Psychology, 31*(4), 816-839.

Lepore, L., & Brown, R. (2002). The role of awareness: Divergent automatic stereotype activation and implicit judgment correction. *Social Cognition, 20*(4), 321-351.

Lerner, J. S., & Keltner, D. (2001). Fear, anger, and risk. *Journal of Personality and Social Psychology, 81*(1), 146-159.

Lesh, T. V. (1984). Zen meditation and the development of empathy in counselors. In

      D. H. Shapiro & R. Walsh (Eds.), *Meditation: Classic and contemporary*

      perspectives. Hawthorne, NY: Aldine Publishing.

Lewin, R. A. (1996). *Compassion: The core value that animates psychotherapy.*

      Northvale, NJ: Jason Aronson Inc.

Lidestam, B. (2002). Effects of displayed emotion on attitude and impression formation

      in visual speech-reading. *Scandinavian Journal of Psychology, 43,* 261-268.

Linehan, M. M. (1993). *The Skills Training Manual for Treating Borderline Personality*

      Disorder. New York: Guilford Press.

Linley, P. A., & Joseph, S. (Eds.). (2004). *Positive psychology in practice.* Hoboken, NJ:

      Wiley.

Lipsey, M. W. (1990). *Design sensitivity: Statistical power for experimental research.*

      Thousand Oaks, CA: Sage.

Lutz, A., Greischar, L. L., Rawlings, N. B., Ricard, M., & Davidson, R. J. (2004). Long-

      term meditators self-induced high-amplitude gamma synchrony during mental

      practice. *Proceedings of the National Academy of Sciences (PNAS), 101*(46),

      16369-16373.

MacIntyre, A. (1966). *A short history of ethics.* New York: Macmillan.

Mackie, D. M., & Worth, L. T. (1989). Processing deficits and the mediation of positive

      affect in persuasion. *Journal of Personality and Social Psychology, 57,* 1-14.

Mahoney, M. J. (2003). *Constructive psychotherapy: A practical guide.* New York:

      The Guilford Press.

Martin, L. L. (2000). Moods do not convey information: Moods in context do. In J. P.

Forgas, (Ed.). *Feeling and Thinking: The Role of Affect in Social Cognition.*

Cambridge, UK: Cambridge University Press.

Martin, L. L., Abend, T., Sedikides, C., & Green, J. D. (1997). How would I feel if...?

Mood as input to a role fulfillment evaluation process. *Journal of Personality and*

Social Psychology, 73(2), 242-253.

McNeill, D. P., Morrison, D. A., & Nouwen, H. J. M. (1966). *Compassion: A reflection on*

the Christian life. Garden City, NY: Doubleday.

Merton, T. (2004). Retrieved November 10, 2004, from

http://www.wow4u.com/qcompassion/.

Mitchell, M. M., Brown, K. M., Morris-Villagran, M., & Villagran, P. D. (2001). The effects

of anger, sadness and happiness on persuasive message processing: A test of

the negative state relief model. *Communication Monographs, 68*(4), 347-359.

Moore B. S., & Isen A. M. (1990). *Affect and social behavior.* New York: Cambridge

University Press.

Murphy, M., & Donovan, S. (1997). *The physiological and psychological effects of*

meditation: A review of contemporary research with a comprehensive

bibliography 1931-1996. Sausalito, CA: Institute of Noetic Sciences.

Nabi, R. L. (2002). Anger, fear, uncertainty, and attitudes: A test of the cognitive-

functional model. *Communication Monographs, 69*(3), 204-216.

Nairn, R. (1999a). *What is meditation? Buddhism for everyone.* Boston, MA:

Shambhala.

Nairn, R. (1999b). *Diamond mind: A psychology of meditation.* Boston, MA: Shambhala.

Neff, K. D. (2003). Self-compassion: An alternative conceptualization of a healthy

   attitude toward oneself. *Self and Identity, 2*, 85-102.

Newton, C. (2004). Meditation and the brain. *Technology Review; MIT.* Retrieved on

   November 4, 2004,

   http://www.technologyreview.com/articles/04/02/newton0204.asp?p=0.

Nussbaum, M. (1996). Compassion: The basic social emotion. *Social Philosophy and*

   Policy, 13, 27-58.

Odajnyk, V. W. (1993). *Gathering the light: A psychology of meditation.* Boston, MA:

   Shambhala.

Olson, A. M. (1992). *Hegel and the spirit.* Princeton, NJ: Princeton University Press.

Pancer, S. M., Brown, S. D., & Widdis Barr, C. (1999). Forming impressions of political

   leaders: A cross-national comparison. *Political Psychology, 20*(2), 345-368.

Paramananda. (1996). *A practical guide to Buddhist meditation*. New York:

   Barnes & Noble Books.

Partridge, E. (1958). *Origins: A short etymological dictionary of modern English.* New

   York: Macmillan.

Post, S. G. (2003). *Unlimited love: Altruism, compassion, and service.* Radnor, PA:

   Tempelton Foundation Press.

Prentice, D. A., & Miller, D. T. (1992). When small effects are impressive. *Psychological*

   Bulletin, 112(1), 160-164.

Progoff, I. (1977). *The well and the cathedral* (2nd ed.). New York: Dialogue House Library.

Roth, R. (1994). *Maharishi Mahesh Yogi's transcendental meditation* (rev. ed.). New York: Primus.

Rozin, P. (2003). Introduction: Evolutionary and cultural perspectives on affect. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith, (Eds.), *Handbook of affective sciences* (pp. 839-851). New York: Oxford University Press.

Ruscher, J. B., Fiske, S. T., & Schnake, S. B. (2000). The motivated tactician's juggling act: Compatible vs. incompatible impression goals. *British Journal of Social Psychology, 39*, 241-256.

Salzberg, S. (1995). *Loving-kindness: The revolutionary art of happiness*. Shambhala Classics.

Salzberg, S. (2004). *Compassion and bodhicitta*. Retrieved on October 31, 2004, from http://buddhism.kalachakranet.org/compassion.html.

Salzberg, S., & Kabat-Zinn, J. (1997). Mindfulness as medicine. In D. Goleman (Ed.), *Healing emotions: Conversations with the Dalai Lama on mindfulness, emotions, and health* (pp. 107-144). Boston, MA: Shambhala.

Scherer, K. R. (1984). On the nature and function of emotion: A component process approach. In K. R. Scherer & P. Ekman (Eds.), *Approaches to emotion* (pp. 293-318). Hillsdale, NJ: Erlbaum.

Schlitz, M. (2004). Cultivating compassion. Retrieved on November 2, 2004, from http://www.noetic.org/publications/shift/issue3/s3_frontiers.pdf.

Schopenhauer, A. (1819/1968). *Die Welt als Wille und Vorstellung? Bd. 1* [The world as

    will and representation, Vol 1]. Darmstadt, Germany: Wissenschaftliche

    Buchgesellschaft.

Schweigert, W. A. (1994). *Research methods and statistics for psychology.* Pacific

    Grove, CA: Brooks/Cole.

Scotton, B. W. (1996). The contribution of Buddhism to transpersonal psychiatry. In B.

    W. Scotton, A. B. Chinnen, & J. R. Battista (Eds.), *Textbook of Transpersonal*

    Psychiatry and Psychology (pp. 114-122). New York: Basic Books.

Segal, V.Z., Williams, J.M.G., & Teasdale, J.D. (2001). *Mindfulness-based cognitive*

    therapy for depression. New York: Guilford Press.

Seligman, M., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction

    [Special issue]. *American Psychologist, 55*(1), 5-14.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-*

    experimental designs for generalized causal inference. Boston, MA: Houghton

    Mifflin.

Shapiro, S. L., Schwartz, G. E., & Bonner, G. (1998). Effects of mindfulness-based

    stress reduction on medical and premedical students. *Journal of Behavioral*

    Medicine, 21, 581-599.

Sinclair, R. C., & Mark, M. M. (1995). The effects of mood state on judgmental

    accuracy: Processing strategy as a mechanism. *Cognition and Emotion, 9,* 417-

    438.

Singh, R., & Boon, J. P. T. (2000). Impression formation from intellectual and social

 traits: Evidence for behavioural adaptation and cognitive processing. *British*

 Journal of Social Psychology, 39, 537-554.

Smith, K. D., Keating, J. P., & Stotland, E. (1989). Altruism revisited: The effect of

 denying feedback on a victim's status to empathic witnesses. *Journal of*

 Personality and Social Psychology, 57, 641-650.

Smith, R. (1997). *The human sciences.* New York: Norton.

Snyder, C. R., & Lopez, S. J. (Eds.). (2002). *Handbook of positive psychology.* Oxford,

 UK: Oxford University Press.

Stamm, B. H. (Ed.). (1999). *Secondary traumatic stress* (2nd ed.). Baltimore, MD:

 Sidran Press.

Stapel, D. A., Koomen, W., & Ruys, K. I. (2002). The effects of diffuse and distinct

 affect. *Journal of Personality and Social Psychology, 83*(1), 60-74.

Stevens, L. E., & Fiske, S. T. (2000). Motivated impression of a powerholder: Accuracy

 under task dependency and misperception under evaluation dependency.

 Personality and Social Psychology Bulletin, 26(8), 907-922.

Stouffer, S. A., Suchman, E. A., DeVinney, L. C., Star, S. A., & Williams, R. M. Jr.

 (1949). *The American soldier: Adjustment during Army life* (Vol. 1). Princeton,

 NJ: Princeton University Press.

Sznaider, N. (1997). Compassion and control: Children in civil society. *Childhood: A*

 Global Journal of Child Research, 4(2), 223-240.

Teyber, E. (2000). *Interpersonal process in psychotherapy: A relational approach* (4th

ed.). Belmont, CA: Wadsworth/Brooks/Cole.

Thich Nhat Hanh (1999). *The heart of the Buddha's teaching: Transforming suffering*

into peace joy and liberation. Berkeley, CA: Broadway Books.

Tolle, E. (1999). *The power of now.* Novato, CA: New World Library.

Walsh, R. (1996). Meditation research: The state of the art. In B. W. Scotton, A. B.

Chinen, & J. R. Battista (Eds.), *Textbook of transpersonal psychiatry and*

psychology (pp. 167-175). New York: Basic Books.

Walsh, R. (1999). Asian contemplative traditions: Common practices, clinical

applications, and research findings. *Journal of Transpersonal Psychology, 31*(2),

83-107.

Walsh, R., & Vaughan, F. (Eds.). (1993). *Paths beyond ego: The transpersonal vision.*

New York: Penguin Putnam.

Watts, A. (1974). *The art of meditation.* In J. White (Ed.), *What is meditation* (pp. 31-

35). Garden City, NY: Anchor Books.

Webster's third new international dictionary, unabridged. (2002). Springfield, MA:

Merriam-Webster.

Whitley, B. E. (1996). *Principles of research in behavioral science.* Mountain View, CA:

Mayfield Publishing Company.

Wuthnow, R. (1991). *Acts of compassion: Caring for others and helping ourselves.*

Princeton, NJ: Princeton University Press.

Yati, N. C. (1974). Entering the world of meditation. In J. White (Ed.), *What is meditation* (pp. 37-46). Garden City, NY: Anchor Books.

Yzerbyt, V. Y., Dardenne, B. & Leyens, J.-P. (1998). Social judgeability concerns in impression formation. In V. Y. Yzerbyt, G. Lories, & B. Dardenne (Eds.), *Metacognition: Cognitive and social dimensions* (pp. 126-156). Thousand Oaks, CA: Sage Publications.

Zajonc, R. B. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology, Monograph Supplement, 9*(2, Pt. 2).

Zajonc, R. B. (1980). Feeling and thinking: Preferences need no inferences. *American Psychologist, 35*, 151-175.

Zeldin, T. (1994). *An intimate history of humanity*. New York: Harper Collins.