What is the impact of the application of the Nonviolent communication model on the development of empathy? Overview of research and outcomes.

MSc in Psychotherapy Studies

Carme Mampel Juncadella

01-10-2013

What is the impact of the application of the

Nonviolent communication model

on the development of empathy?

Overview of research and outcomes

By

Carme Mampel Juncadella

MSc in Psychotherapy Studies

School of Health and Related Research

University of Sheffield

Supervisor:

Christopher Blackmore

October 2013

19,535 words.

INDEX

ABSTRACT

Background. Nonviolent Communication© (NVC) was developed by Dr. Marshall B. Rosenberg to foster intra and interpersonal relationships of compassion, collaboration and caring. It has been applied in a variety of settings like schools, hospitals, prisons and in restorative justice systems. Even though NVC as it is today has emerged out of research since the 1960s, studies into the impact of the model started only in the 1990s (Steckal, 1994). This systematic review intends to assess the research done up until now about NVC and its findings concerning empathy development.

Methodology. Electronic databases (mainly ERIC, PsychINFO and ASSIA) and an active consultation with experts were undertaken in search for papers, reports and theses, in any language, reporting empirical studies on NVC.

Results. From 2634 citations, fourteen studies were identified, citing thirteen experiments, which complied with the inclusion criteria. These studies present heterogeneity of methods and measures, meaning it was impossible to realize a meta-analysis. Eight of these studies evaluated the results of purposive workshops, and five assessed the impact of NVC in real-life situations. All of these five were conducted in educational institutions. Only two studies coincide in the use of two validated measures. The remainder of the studies use other measures and researcher made instruments. Non-randomized selection of participants, lack of reporting and small number of participants, are the main shortcomings observed in the studies. The results regarding empathy development are positive in all studies except two. Other positive outcomes relate to increase of communication skills, betterment of relationships, fewer conflicts as well as new conceptions and ways to handle them.

Conclusion. The promising results regarding the efficiency of NVC on empathy development, among other outcomes, would need to be confirmed with further studies bearing stronger designs and more appropriate measures. A limitation patent in the studies included, which is shared with other reviews on the subject (Butters, 2010; Lam *et al*., 2011 and Stepien & Baernstein, 2006), is the mismatch between the constructs of the model and the validated empathy measures, developed in the 1980s. New updated instruments, like the one developed by Steckal (1994), need to be created and validated in order to evaluate the specificity of the NVC model.

1 INTRODUCTION

Nonviolent Communication is a versatile approach to communication developed by Marshall B. Rosenberg (1983, 2003a), comprising a series of principles and communication techniques applicable to any setting or population. Rosenberg places a specific empathic process at the core of his approach.

Rosenberg, a clinical psychologist pupil of Carl Rogers, developed the NVC model over a period of 40 years, applying its principles in a broad range of educational and peace making activities. Rosenberg first used NVC in a federally funded school integration projects to provide mediation and communication skills training during the 1960s.

A series of publications and a certified training program have spread the principles of NVC into numerous countries and a wide range of settings including schools (Hart, 2009) and the correctional system (Marlow *et al*., 2012). UNICEF has funded a post-war project in Serbian Schools based on NVC principles (Savic, 1996).

Now NVC is a mature program, with training offered in more than 65 countries.

In this introduction, the different meanings given to empathy and its importance in conflict resolution, intergroup and interpersonal relationships contexts will be explored. In order to understand the frame of reference in which Rosenberg developed his model of empathic communication, the various efforts made by therapists and other professionals to specify possible and useful modes of empathic communication, especially through the client-centered approach, will also be addressed.

This study finds its relevance in the context of the little explored field of empathy research investigating the communication skills associated with verbal empathic responses and inferences, and the effects of the use of these verbal empathic expressions. The field of empathy responses relates to the behavioral component of empathy.

The evolutionary importance of the communicative or verbal expression of empathy has been pointed out by Decety & Jackson (2004). The ability to verbally express and share emotional experiences with others is unique to the human species. Moreover, Decety and Jackson conclude that conversation helps to develop empathy by allowing humans to learn about shared emotions and experiences.

The crucial role of empathy communication has been specifically addressed by C. Rogers (1975). Beyond the psychotherapeutic fields, the communication of empathy has been developed as an important ability in helping professions (Carkhuff, 1969a, b, c; Gazda *et al*., 1977). Currently, the widespread necessity to develop empathic skills has become a discipline in its own right, inspiring numerous 'empathy training programs' and 'communication skills' trainings presenting varied techniques and constructs (Butters, 2010; Lam *et al*., 2011 and Stepien & Baernstein, 2006).

Though NVC is not specifically an empathy program, comparisons with previous reviews done on empathy training will be made.

2.1 Empathy, pro-social behavior and conflict resolution

There are several studies establishing a relationship between empathy and pro-social behavior (Eisenberg & Miller, 1987; Eisenberg *et al.*, 2002), social skills (Riggio *et al.*, 1989) and non-aggressive behavior (Kaukiainen *et al.*, 1999: Miller & Eisenberg, 1988; Loudin *et al.*, 2003).

The role of empathy in conflict resolution has been a topic of discussions (Frei, 1985), studies (De Wied *et al.,* 2007, Batson & Ahmad, 2009), and practices among mediators and peace activists, and is now included in several conflict resolution approaches (Carlisle 2012; Conflict Resolution Network, 2012; Gordon, 2013) and communication skills trainings (Stepien & Baernstein, 2006).

There exist a considerable number of educational programs aiming to reduce and prevent violence among young people. Anti-bullying and peace-education programs, are being promoted, implemented and widely researched (Wilson & Lipsey, 2006; Farrington & Ttofi, 2009; Tolan *et al.*, 2008; Haavelsrud & Stenberg, 2012). A growing number of these approaches aim to foster empathy among students (Feshbach & Feshbach, 2009).

Educational research was the first to investigate the communication of empathy outside the psychotherapeutic profession while teacher empathy was first inspired by C. Rogers (Carkhuff & Berenson, 1967). In recent years, attention has been concentrated into student empathy and its effects on social behavior and academic achievement (Feshbach & Feshbach, 2009). This introduction will focus on the approaches to communication that stemmed from the psychotherapeutic person-centered field and later evolved into helping professions programs, parenting, and communication skills courses addressed to general client populations (Butters, 2010).

While there might be little doubt that empathy plays a role in improving relationships and diminishing conflict (Ferguson *et al.*, 2010; Nadler & Liviatan, 2006; Rohr, 2012; Zubeck *et al.* 1992), what is less clear is how and why it does so. The evidence of research on empathy becomes diluted by myriad meanings and states prescribed to the word 'empathy'. Batson (2009) and Batson & Ahmad (2009) discuss the question of the different states of the empathy construct and the necessity of these different states being specifically differentiated in research studies that aim to inform and improve policies and methods.

The NVC model, or 'compassionate communication', places a concrete type of empathic strategies in the center of its process, and develops a model of verbal expression of empathic inference and understanding. This review will define the specificity of this empathic process, analyze its similarities with the person-centered approach to empathic responding, compare it with other existing verbal models of empathic communication, and asses the outcomes of its application.

2.2   Meanings of empathy

Very often, the construct of empathy, has been investigated as a three-faceted phenomena. Among these can be cited the well-known affective, cognitive, and behavioral/motivational aspects (Hoffman 1982, 1983), and the understanding, communicating, and acting abilities (Mercer *et al*., 2004). Feshbach & Feshbach describe three other elements: 'the cognitive ability to discriminate affective states in others, the more mature cognitive ability to assume the perspective and role of another person and the affective ability to experience emotions in an appropriate manner'(2009, p.85).

Nevertheless, emerging from this breadth of approaches and definitions, Elliott and colleagues (2011) conclude that there is today a growing consensus consisting of three major neuro-anatomically based sub-processes:

> "a) an *emotional simulation* process that mirrors the emotional elements of the other's bodily experience with brain activation centering in the limbic system and elsewhere (Decety & Lamm, 2009); b) a conceptual, *perspective taking* process, localized in parts of prefrontal and temporal cortex (Shamay-Tsoory, 2009); c) an *emotion-regulation* process used to soothe personal distress at the other's pain and discomfort, making it possible to mobilize compassion and helping behavior for the other" (Elliot *et al.* 2011, p.43).

This neuro-anatomical division supports the classic affective-cognitive-behavioral view mentioned previously.

 The practical approach of Barrett-Lennard (1981), the empathic cycle of relational empathy, also in three phases, is of particular interest to this study. This process revolves around three steps: 1) Person A is listening, resonating and forming a personal understanding of B's experience; 2) Person A communicates or expresses his empathic understanding to B; and 3) B's answer to A's, expressing what is called 'received experience', in which B will give some feedback about the accuracy of A's understanding, or some information about the sense of relationship with A. This step can then become phase 1. This distinction will be translated in empirical studies to three different measures: client, observer and therapist (Elliot *et al*., 2011).

Another significant view is that of Decety & Jackson, which outlines three major functional components: 1) affective sharing between the self and other, 2) self-other awareness and 3) mental flexibility "to adopt the subjective perspective of the other and also regulatory processes" (2004, p. 75).

The NVC construct of empathic communication binds several of the concepts mentioned. As a pupil of Carl Rogers, the next chapter traces Rosenberg's model from its original source.

2.3 Carl Rogers' empathy and empathic understanding responses

Empathy is a core concept in Rogers' approach, and the way that this can be conveyed to the client is a prime concern for him as evident from the earliest development of his theory (1942). His focus was on the therapist's methods of 'reflection' or 'reflection of feelings' as empathic communication methods.

In Rogers' theoretical statement of 1957, *The Necessary and Sufficient Conditions of Therapeutic Personality Change,* he emphasizes the importance of communication in the empathic attitudes in the 5th and 6th conditions:

"5. The therapist experiences and empathic understanding of the client's internal frame of reference and endeavors to communicate this experience to the client.

6. The communication to the client of the therapist's empathic understanding and unconditional positive regard is to a minimal degree achieved. "(p.98).

In 1959, Rogers completed his concept of empathy with the famous "as if"(1) which brings to light the consciousness of self –other distinction, and which reflects, according to Decety & Jackson (2004), an 'active regulatory mechanism' by which the person can remain aware of the 'merging' with another.

From 1968, with the establishment of the Center for Studies of the Person, Rogers moved away from clinical work (Wyatt, 2001) and turned the application of the client-centered philosophy to other fields, such as education, facilitation, group and cultural conflicts. He states that his attempt "to understand the exact meaning of what the person is communicating is the most important and most frequent of my behaviors in a group" (1970, p.51).

In 1975, he re-examined the meaning of being 'empathic' and specifies how to communicate the 'empathic way of being':

> "An empathic way of being with another person has several different facets.(…)It involves being sensitive, moment by moment, to the changing felt meaning which flow in the other person, (…), moving about in it delicately without making judgments; it means sensing meanings of which

_____

(1) (Empathy means) "to perceive the internal frame of reference of another person with accuracy and with the emotional components and meanings which pertain thereto as if one were the person, but without losing the as if condition" (Rogers, 1959, p. 210-11)

he or she is scarcely aware, but not trying to uncover totally unconscious feelings, since this would be too threatening. It includes communicating your sensings of the person's world as you look with fresh and unfrightened eyes at elements of which he or she is fearful. It means frequently, checking with the person as to the accuracy of your sensings, and being guided by the responses you receive" (p.142-3).

His approach to empathy has been misinterpreted as limited to the verbal statements of feelings, despite the fact that he always stressed the non-verbal nature of empathy. Despite resolutely holding to a view of empathy as a way of being rather than a set of techniques, his approach was often associated with the technique of reflection (Brodley, 2001; Bozarth, 2001).

`Being empathic´, evolves, therefore, from being a state to become a process (Rogers, 1980) involving the whole of the person's 'sensory awareness' in an 'empathic dialogue' (Schmid, 2001, p.64). Rogers suggests that emphasizing the therapists' responses instead of his attitudes could lead to "appalling consequences" and "complete distortions" of the client-centered therapy (1980, p.139).

However, according to Bozarth (2001), Rogers' verbal responses demonstrating his empathy "remain predominantly reflective and readily lend themselves to be modeled" (p.134). He specifies that reflection is not empathy but a technique that may aid the empathic process of the therapist "entering the world of the client" as if "the therapist was the client" (p.138).

During his career Rogers tried to convey the qualitative and holistic nature of the therapist's empathic experience. There is, though, a difference between experiencing and communicating this experience (Hackney, 1978).

Since Rogers' death in 1987, other therapists in the movement he founded have made significant contributions to defining, measuring, and refining the empathic way of responding.

Brodley (1997), Wilczynski (2004), Zimring (2001), Bohart (2001), and Bozarth (2001), contributed to the processes of expanding possibilities for empathic responses. A substantial step for the categorization of empathic response was made by L. Greenberg and R. Elliot (1997).

2.4 The process-experiential view of empathy

In contrast with the person-centered approach, the process-experiential psychotherapy empathic responses (Greenberg & Elliot, 1997) intend not only to convey understanding, but also to promote exploration and the possibilities of client's growth. This explicit directive attitude differs from the mere nondirective client-centered stand.

Greenberg & Elliot distinguish an empathic attunement principle, in which the therapist tries to make and maintain client empathic contact, and an empathic communication principle, in which the therapist communicates his empathic understanding, amongst other empathic behaviours, so as to create a bond with the client.

Greenberg & Elliot articulate five qualitative types of empathic responses. Unlike other previous conceptualizations of empathy (Truax, 1967), Greenberg & Elliot do not rate the degree to which an empathic response accesses feelings to a greater or lesser level of awareness, but emphasise how different types are guided by different intentions and targets.

 The choice of a given form of empathic response is guided by two major considerations: either to create a supportive environment by conveying nonjudgmental understanding, or to promote exploration and possibilities for growth. Each empathic form also aims at different targets, either emotional processes (primary or secondary emotions) or different cognitive processes (core beliefs, idiosyncratic meanings or subjective constructs).

Elliott *et al.* (2011) realized a meta-analysis about the relationship of empathy with psychotherapeutic outcome. They conclude that there is evidence to support a causal model in which empathy is a mediating process leading to client change. They argue, though, that it is more difficult to establish which particular types of processes are involved in this change. Furthermore, there is no evidence relating the accuracy of the therapist in predicting client's views with the client feeling understood, therefore they suggest that "empathy should be offered always with humility and held lightly, ready to be corrected" (p. 48).

2.6   Beyond psychotherapy

2.6.1 William Ickes empathic accuracy

W. Ickes calls *empathic inference* "the everyday mind reading that people do whenever they attempt to infer other people's thoughts and feelings" (2009, p.57). *Empathic accuracy* refers to the degree to which a perceiver is successful in his/her mind reading attempts. Ickes explains that other authors address this concept as 'mentalizing' or 'theory of mind' as it is exposed by Stone (2006) and Stone & Gerans (2006).

On the other hand, Ickes also associates his concept with Rogers' 'accurate empathy' (1957). However, the association of 'theory of mind' and 'empathy' is a conundrum that has not yet been resolved (Decety & Jackson, 2004).

To my understanding, in Ickes' and colleagues' studies of empathic accuracy in relationships (Ickes & Simpson, 1997, 2001; Simpson *et al.*,1995, 1999, 2001, 2003), empathic accuracy appears closer to the views of 'theory of mind' than to those of Rogers, to the extent that Ickes' empathic accuracy focuses mainly on the cognitive component of empathy; that is, the ability to infer another person's feelings and thoughts, without considering motivational or affective factors in the person realizing the inference. I believe that a consensus on whether empathy can be considered or called empathy when deprived of its emotional dimension, would contribute to clarify the association between theory of mind and empathy.

2.6.2 Other models of empathic verbal communication

Carkhuff & Berenson (1967/1977) created a pioneering and influential model of facilitative interpersonal processes specially oriented to those in the helping and teaching professions. Considered the first interpersonal skills system (Carkhuff & Berenson, 2000), it is also known as Human Relations Training (HRT) (Higgins *et al.*, 1981).

Though fundamentally inspired by the client-centered approach based on the three core conditions elucidated by Rogers (1957) for healthy interpersonal relationships; empathy, congruence and positive regard, Carkhuff & Berenson use other psychotherapeutic approaches' goals and perspectives within their model. For instance, they find to be critical understanding the cause of feelings, and not simply reflecting them back, and hence they differ strongly with a client-centered empathic approach. They argue for highly predictive measures of empathy and client change that "integrate the client-centered notion of the reflection of feelings and the analytic emphasis upon diagnostic accuracy" (2000, p.9). They insist, though, on the manner in which the helper communicates above the techniques used. No mechanistic reaction or intellectual understanding of the problem will communicate understanding, nor will it foster growth.

In addition to client-centered and psychoanalytic stands, Carfhuff & Berenson adopt principles and strategies from other psychotherapeutic approaches, i.e. existentialist and behavioral. It is possible to trace these influences in the goals and phases of their model.

Their training model has four phases: a) *Attending:* listening, observing; b) *Responding:* using phrases that encourage the helpee to explore; c) *Personalizing:* assinsting helpee's understanding the reasons behind his experience, and d) *Initiating:* supporting the helpee to take action.

Imbued in the process of understanding and acting, Carkhuff and Berenson look to the responsibility of the individual as the foundation of any integrity and growth. Their view of a "whole person" includes his/her awareness of the "awesome responsibility that comes with freedom" (2000, p. 243).

Carkhuff (1969) defined three facilitative conditions as essentials in the helper attitude:

1. Empathy or understanding. Carkhuff believed in a type of empathy that would aim to see and experience the world as another person does.
2. Respect or caring is the ability to communicate to the helpee the conviction of the helper in the helpee's capacities to solve the problems.
3. Concreteness, or being specific, is the ability to assist the helpee in being specific about his feelings and experience.

Research has confirmed Carkhuff and Berenson's model in fostering teacher improvement on Rogers' core conditions (Aspy & Roebuck, 1977), and empathic responding (Higgins *et al*., 1981).

Empathy is generally regarded as the most crucial element in effective interpersonal communication skills (Warner, 1984). Carkhuff elaborated a measure for empathy known as *Carkhuff Indices of Discrimination and Communication* (1969b). There is some evidence of its construct validity (Carkhuff, 1969b and c; Yu & Kirk, 2009). It has been used in numerous studies since (Butters, 2010).

Several helping skills and interpersonal communication models ensued, such as that of Gazda, inspired by Carkhuff's. G.M. Gazda (Gazda *et al*., 1973) amplified the Carkhuff model. Both share diverse dimensions of the helping relationship: empathy, respect, and warmth as facilitation dimensions, and concreteness, genuineness and self-disclosure as transition dimensions, as well as confrontation and immediacy as action dimensions.

Gazda developed scales to measure empathy, warmth, respect and concreteness. Gazda's Model and Index of Responding was used in several studies and training programs in the 80's (Black & Phillips, 1982; Casey & Roark, 1980).

2.6.3 The Gordon model

In the 1960s, Dr. Thomas Gordon developed a model that included non-verbal and verbal communication, linked to techniques in conflict resolution, which were first articulated as *Parent Effectiveness Training (P.E.T.),* and then in the 70´s as Teacher Effectiveness Training (T.E.T) . Like Rosenberg, T. Gordon was Carl Rogers´ pupil, and both began their careers as clinical psychologists. It is no surprise then, that their approaches show striking similarities.

Principal aspects of Gordon´s model include:

Active listening is a development of Roger´s "empathic listening". Gordon proposes several listening modes that he refers to as "communication facilitators" (1973, p.87):

1. Passive listening (silence). Though silence and attention encourage people to talk, such silences do not necessarily convey empathy or warmth.
2. Acknowledging responses (both nonverbal and verbal cues) convey to the person that we are really listening (i.e. nodding). Verbal cues ("uh-huh", etc.) do not prove that we actually understand, or are with the person.
3. Door openers or invitations to talk are mostly open-ended questions that encourage the person to talk but are still passive attitudes.
4. Active listening is a real interaction by which we try to convey our acceptance and the accuracy of our understanding. Active listening involves a sort of decoding process. We aim to understand what is going on inside the person, the meaning inside the message. It is always an inference or a guess. We don´t know whether we are right or wrong until we receive validation to our guess from the person we are interacting with. Gordon proposes focusing on the feelings about the situation and not the situation itself, so as to keep the onus of self- responsibility on the student/child. The interaction guided by active listening helps the student/child to move away from the surface of the problem to the underlying problem or concern.

The 12 communication roadblocks are opposed to the communication facilitators, and constitute the responses that tend to block open communication, and are often used by parents and teachers. Gordon identified 12 categories of responses that communicate un-acceptance: ordering, warning, moralizing, advising, teaching (logical argument), judging, praising, name – calling, interpreting, reassuring, probing and diverting.

The 12 types of responses mentioned above usually contain or imply a 'you' i.e. ""You stop that!" (Ordering), "You had better quiet down or else!" (Warning), or "You ought to know better!" (Moralizing), etc." (1973, p.136-7).

Gordon believes that in all those cases, an **'I-message'** would have been more effective. The 'you' message is likely to be heard as blame or analysis. However, these messages communicate nothing about the inner state of the person who is uttering them.

 I-messages can be called 'responsibility messages', as far as they convey how the person is feeling or what is going on that is affecting her. To this extent, I- messages create a more effective confrontation because they avoid negative evaluations of others, and therefore promote a willingness to positive change.

An 'I-message' must have three components:

1. First the message has to tell *what* is unacceptable, a situation or behaviour, describing it in a non-blaming, non-judgmental way, starting with "when" i.e.: "When I find the papers left on the floor…."
2. This second element describes the tangible or concrete effect of the situation or behaviour, stated in the first part of the message, on the person who is talking i.e.: "When the paints are not returned to the cupboard (non-judgmental description), I have to waste a lot of my time collecting them and putting them away…. (tangible effect)". Gordon thinks that people seldom modify their behaviour unless they realize it has a tangible undesirable effect on another.
3. The third component must contain the feeling generated within the person i.e. "When you have your feet in the aisle (description of behavior), I'm apt to trip over them (tangible effect) and I'm afraid I'll fall and get hurt (feeling)." (Gordon, 1973, p.144).

The sequence behaviour-effect-feeling puts the cause of the feeling on the effect instead of on the behaviour, which therefore may result in a less defensive reaction from the person responsible for the behaviour or situation.

Gordon points out (1973, 2013) that often the resolution of conflicts imply a win-lose orientation.

Gordon believes in a **no-lose method of conflict resolution**, where all parties can have their needs met in a win-win or no-lose situation. This method is a process in which the parties try to find a solution acceptable for both by listening to the needs of both. This approach strengthens the relationship in a flow of mutual respect in which the power has no place.

Gordon emphasizes the importance of differentiating between 'conflict of needs' and 'competing solutions'. One thing is what we want as a solution and another is the unmet need. In this process,   I-messages must focus on the unmet need so both parties can be open and creative in finding a solution.

Gordon's model has been the object of many studies, especially in the P.E.T. format. Cedar & Levant (1990) conducted a meta-analysis and they concluded that P.E.T. has positive effects among parents, and found support for the use of P.E.T as a preventive intervention.

In an Australian study, Wood & Davidson (1987) showed that parents acquire new communication abilities - like active listening, problem solving, and conflict resolution- with their children after taking a P.E.T. course. The same group of parents was re-assessed seven years later (Wood & Davidson 1994/95) and showed that the communication skills remained above their initial level compared with those of the control group. Subsequent studies realized by Wood & Davidson showed that parents who followed P.E.T. improved their skills of listening, appropriate confrontation in resolving conflicts (1993,2000), reduced stress on parenting issues (2001, 2002a,b), presented an attitudinal shifts towards a collaborative parenting style (2003) and observed increased family harmony levels (Wood, 2003).

3 MARSHALL ROSENBERG'S CONCEPT OF EMPATHY AND NONVIOLENT COMMUNICATION

3.1 Brief description of the NVC model

Rosenberg (2003a) understands empathy as a respectful comprehension of what others are experiencing, focusing mainly on the feelings and universal needs underlying other people´s actions and words, and he sites this as a key factor in the reconciliation process model that he developed (2003b).

The NVC process as defined by Rosenberg (1983) consists of four key principles. These four principles or components can be applied to two different NVC processes: 'expressing honestly', and hearing others or 'receiving empathically'.
The first principle is **the separation of observation from evaluation**. When we want to express that which is affecting our sense of well-being, we need to clearly make an observation without mixing in any evaluation, otherwise, people who listen to us are apt to hear a criticism and therefore create a resistance towards what we want to express.
The formula that would bind the four components may start the same way as Gordon's model: "When I see the books on the floor…..

> I hear you say ……..……..
> I remember ……………………"

The second principle is **exploring and expressing one's feelings that emerge from these observations**. Rosenberg encourages the expansion of our feelings vocabulary so that we can express as many nuances as "different passages of music in a symphony" (R. May, in Rosenberg, 2003a, p.37). Rosenberg points out the misuse of the verb 'feeling' in English. Often, sentences that contain the verb "I feel" could be more accurately replaced by "I think". For example: "I feel that you should know better", or "I feel as if I'm living with a wall". Especially when the expression "I feel" is followed by a pronoun or nouns of people, very likely it contains an evaluation i.e. "I feel it is useless", "I feel Amy has been pretty responsible". Conversely, it is possible to express a feeling without using always the verb "feel" i.e. "I am irritated".
The second principle intends to distinguish between what we feel and what we think we are. For example "I feel inadequate as a guitar player"; this is a statement that expresses what I think I am, while "I feel disappointed in myself as a guitar player", might express the underlying feeling behind my assessment.
Adding the second principle to the formula would result in: "When I see……… I feel……….."

The third principle **is taking responsibility for our feelings**. Rosenberg believes that what others say and do can be the stimulus of our feelings but never the cause. The root of our feelings is twofold: first is "how we choose to receive what others say and do, as well as our particular needs and expectations in that moment" (2003a, p.49). This principle is the cornerstone upon which is founded the NVC philosophy: that human beings want to give out of 'intrinsic' inner

motivations, instead of guilt, shame, obligation, or reward. Rosenberg refers to this way of acting as 'giving from the heart'. Rosenberg points out that "the basic mechanism of motivating by guilt is to attribute the responsibility for one's own feelings to others" (2003a, p.51) i.e. when parents say "It hurts Mum when you get poor grades at school". In order to deepen our awareness of our own responsibility, we can use the phrase "I feel..... because I......." , which deeply resonates with the I-messages we have seen in the Gordon model. For example: "*Mommy* feels disappointed (*feeling*) when you don't finish your food (*observation*), *because I* want you to grow up strong and healthy (*need/ value*)" (2003a, p.52).

 Rosenberg sees Gordon's roadblocks type of expressions as alienated expressions of unmet needs. For instance, if someone says "You never understand me", that person is, in fact, expressing that his/her need to be understood is not being fulfilled. Therefore, Rosenberg believes that expressing our needs clearly raises our chances to having them met.
NVC is a language of needs. As such it is very much inspired on the work of A. Maslow (1943). Rosenberg, however, does not present the needs in hierarchical categories but in qualitative dimensions such as autonomy, celebration, integrity, play, physical nurturance, and so on.

 The final principle addresses the question of "**what we would like to request of others in order to enrich our lives**" (p.67) or, in other words, to fulfill our needs. Rosenberg explores the way we can express our request so that others may be more willing to respond compassionately to our needs. He suggests that we make requests with a clear, positive (express what we want instead of what we don't want) and concrete action language (avoid nonspecific, vague expressions) i.e. "All I want is for you to start showing a little responsibility" (p.70).

Rosenberg emphasizes that expressing a request without stating our feelings and needs can be heard as a demand.

The four components of NVC can be applied in two ways: to express ourselves honestly or to receiving others emphatically.

3.2 Receiving empathically

For Rosenberg the key ingredient for empathy is presence. He identifies life-alienating language that prevents us from being present. These expressions are almost identical to Gordon's twelve roadblocks i.e. advising, educating, consoling, story-telling, sympathizing, interrogating, correcting and explaining.
 Rosenberg tells that we can be fully present to what other people are experiencing when we can shed all preconceived ideas and judgments about them. This particular quality of presence distinguishes empathy from "either mental understanding or sympathy" (2003a, p.94).

In NVC, we endeavor to listen to the observations, feelings, needs, and requests of other people, no matter what words they use in their messages. NVC is an effortful operation of inference and guess beyond the words that people express. In NVC we purposely try to listen to

what other people are needing instead to what they are thinking.

The way we can reflect back what we have understood is called 'paraphrasing' and takes the form of a question that "reveals our understanding while eliciting any necessary corrections from the speaker" (2003a, p.96). Questions may focus on:

A) What others are observing: "Are you reacting to how many evenings I was gone last week?"

B) How others are feeling and the needs generating their feelings: "Are you feeling hurt because you would have liked more appreciation of your efforts than you received?"

C) What others are requesting: "Are you wanting me to tell you my reasons for saying what I did?" (p.96).

These questions imply an effort on our part to sense what is going on inside the other person. This intention constitutes a difference with the 'probing' questions mentioned by Gordon, such as:

a) What have I done that you are referring to?

b) How are you feeling?; Why are you feeling that way?

c) What are you wanting me to do about it?

Rosenberg suggests using paraphrasing when we are unsure that we have understood a message or when the message is emotionally charged. With regards to sustaining empathy, Rosenberg stresses the importance of allowing others to fully express themselves, maintaining our attention on what is going on within others, before trying to find solutions or relief. We can perceive that the speaker has received enough empathy when "a. we sense a release of tension or b. the flow of words comes to a halt" (2003a, p.102). This ability to offer empathy can allow us to stay vulnerable by revealing ourselves, to diffuse violence and anger, to hear 'no' without taking it personally, and to transform our negative view of other persons by recognizing our common humanity of shared feelings and needs.

3.3 Self-empathy

Rosenberg argues that when we are unable or unwilling to give empathy is because we are in need of empathy ourselves. We can only give what we already have. Therefore, Rosenberg states that the most important application of NVC is actually to develop self-compassion or self-empathy. To that purpose, he suggests to learn to replace our own self-judgments and criticisms when we act in a way that we disapprove by 'NVC mourning', which is "connecting with the feelings and unmet needs stimulated by past actions which we now regret" (2003a, p.133), and self-forgiveness.

Rosenberg believes that humans always act in service of needs and values even though not always those actions would meet these needs, and maybe we would end up regretting what we have done or said. Self-forgiveness occurs when we can connect empathically with the underlying needs that we were trying to meet when we took the action which we now regret. An important aspect of self-compassion is to be able to empathize with both parts of ourselves: the one that is now regretting the past action and the one that took the action in the past.

Rosenberg believes that by cultivating such self-compassion, we are more likely to make choices motivated by our "desire to contribute to life rather than out of fear, guilt, shame, duty or obligation" (2003a, p.135), we act in service of our own needs and values rather than out of extrinsic rewards or to avoid punishment or shame.

The NVC process, though developed by Rosenberg through his exercise in mediating conflicts, it is not only a conflict resolution method, but consists in principles and communication skills that "empower us to connect compassionately with others and ourselves" (2003b, p.1). It can be applied in personal or professional levels in all sorts of work settings or relationships in our efforts to resolve conflicts peacefully.

3.4 Rosenberg's approach in context

It is possible to trace many elements of the person- centered approach in the NVC model i.e. the empathic attitude of giving our whole attention to the person we are listening. Rosenberg coincides with Rogers, Greenberg and others that empathy can be given in silence.

Regarding the verbal expression, Rosenberg is the first to propose a formula in the form of a question. Even though all authors mentioned assumed that their reflection was meant to be corrected or accepted as accurate, all the verbal expressions were made as assertions.

It has been noted that some authors were reluctant to put questions because they saw questions as 'probing' and too directive (Gordon, 1973). Rosenberg differentiates between his 'paraphrasing', in which the person who asks has made an effort to imagine the observations, feelings, needs or requests of the speaker, with 'probing' questions that would discourage confidence and disclosure.

Rosenberg's model of communication also includes the aspect of specificity and concreteness and the key element of responsibility we have seen in Carkhuff and Gazda.

Rosenberg's and Gordon's verbal formulations bear strong similarities.

Table 1. Comparison between Gordon's and Rosenberg's steps.

Steps:	1	2	3	4
Gordon	State facts or behavior without evaluation	Express tangible or concrete effects arising from 1	Express feelings	
Rosenberg	Distinguish observations from evaluations	Express feelings. Avoid using words that imply other's person behavior, i.e." I feel threatened"	Take responsibility of our feelings by linking them to our needs, values or expectations	Express requests, instead of demands.

Both formulas begin in similar fashion: "When I see, notice, etc……." and then progress in differently. Both see necessary to state the feelings associated to the situation and both prone to take responsibility for those feelings, though in a different way.

While Gordon's formula expresses this responsibility by introducing the concrete tangible effects of the behavior or situation observed, Rosenberg links the feelings to the needs or values. Gordon's formula could be seen as more amenable to articulate and more effective because it renders comprehensible to the listener the way in which certain facts are concretely and immediately affecting the speaker.

Rosenberg's emphasis on the universal needs can be seen as more abstract and certainly difficult to articulate by somebody who has not had a specific training. Our culture has not developed an awareness of the needs and values that underlie our actions and decisions, as he himself recognizes: "Many people find it difficult to express needs. This lack of 'need literacy' creates problems when people want to resolve conflicts" (2003c, p.5).

Gordon also speaks about needs and coincides with Rosenberg in an approach to conflict resolution that endeavors to meet the needs of all parties. Gordon also sees conflicts more as conflicts between 'solutions' than conflicts of needs like Rosenberg, who speaks of conflict of strategies rather of conflict of needs.

In Gordon theories', however, the questions of needs remain vague, while Rosenberg defines his conception of needs (2003a, 2003c) quite clearly:

> (needs)"can be thought of as resources life requires to sustain itself. For example, our physical well-being depends on our needs for air, water, rest, and food being fulfilled. Our psychological and spiritual well-being is enhanced when our needs for understanding, support, honesty and meaning are fulfilled. As I'm defining needs, all human beings have the same needs. Regardless of our gender, educational level, religious beliefs or nationality, we have the same needs. What differs from person to person is the strategy for fulfilling needs. (…) One guideline for separating needs from strategies is to keep in mind that needs contain no reference to specific people taking specific action. In contrast, effective strategies –or what are more commonly referred to as wants, requests, desires, and 'solutions' – *do* refer to specific people taking specific actions"(2003c,p.4).

To this extent, Rosenberg presents a stronger point in resolving what Gordon calls 'conflicts over values or beliefs'. Rosenberg exemplifies in his books his conviction –based upon his experience as mediator- that it is possible to resolve any conflict to the satisfaction of all parties by using the 'language of needs'. Strategies can be incompatible but needs are universal. A key factor in the process of resolving conflicts is not only that the person becomes aware of his own needs, but is also capable of reflecting back the needs of the other party (2003c).

Rosenberg has also thoroughly investigated the possibilities of clearly requesting concrete actions to others in a manner that fosters relationships based on honesty.

M. Little (2008) also points out that NVC offers the opportunity "to extend empathy towards oneself (self-empathy) and can thus be applied to solve internal conflicts or as a mindfulness practice. Parent Effectiveness Training is a model intended only for application towards others" (p.41).

3.5 Weaknesses/Criticisms

T. Altman (2010), K. I. Bitschnau (2008) and M. Oboth (2007) have tried to thoroughly examine the weaknesses of the model in their respective studies, primarily through the reflections of the participants.

They find a series of challenges in the application of the NVC four steps model, which can be summarized as follows:

- It is challenging to describe a specific behaviour with what NVC understands as observation, because a particular behaviour can have multiple interpretations.
- The expression of feelings and needs can be difficult to the extent that people do not understand spontaneously their own feelings and needs; this requires a certain level of self-knowledge.
- Often, the use of the model makes people feel awkward, and they eventually desist in using it in everyday life for fear of appearing to speak 'different'. The expression of feelings and needs requires, too, a level of trust in the interaction, often absent in everyday life.
- The expression of a clear, doable, positive action demands a high level of NVC knowledge. It often takes a long time to be able to achieve an appropriate NVC wording of the positive action. It demands time, reflection, patience and discipline, which often are not possible to manage in real-life situations.

Bitschnau (2008) describes the risks of applying the model in an unreflective way, which results in a series of paradoxes, i.e. the application of the techniques creating the violence that was meant to be avoided, for example, when participants demonstrate strong expectations of other people being non-violent or demanding to receive empathy. Oboth argues that people can use the process of empathy to hide their own true feelings; then the empathic process becomes a kind of subtle violence, to the extent that is not used to create a true connection.

Bitschnau points out two more shortcomings: 1) the unlikely culmination of the whole process -- in which everybody can express their feelings and needs and have their needs met-- because it requires so much time, discipline and patience to achieve, and 2) the risk of NVC fans seeking to relate to people of the same circle creating what may become a sort of prejudice towards lay persons.

In addition to the shortcomings described above, another limitation of this communication model, notwithstanding the challenge of the limited feelings and needs vocabulary of the average person, is the difficulty of making the 'verbal mechanics' sound natural and the challenges to apply its tools in natural, everyday life settings.

This is a handicap observed, too, by the followers of the approach (Kashtan, 2012). It requires months or years of practice and experience to be able to manipulate these verbal skills with ease so as to sound natural and authentic.

Another criticism that can be made of the NVC approach is the manner in which it can encourage crude 'paraphrasing'. Trouble arises when an NVC listener empathizes 'translating' whatever is said into a language of feelings and needs. Typically, the person who receives the paraphrases can feel accurately interpreted, while in other cases, they can feel discomforted by the reflecting back being too directive or 'suggestive', whereby a critical quality of receptivity has been lost.

4.1 Introduction

This systematic review follows the criteria of the conventional systematic review defined by Dixon-Woods *et al*. (2006) as being:

> "…developed as specific methodology for searching, appraising and synthesizing findings of primary studies. It offers a way of systematizing, rationalizing, and making more explicit the processes of review, and has demonstrated considerable benefits in synthesizing certain forms of evidence where the aim is to *test* theories, perhaps specially about "what works" (p.2).

All studies included aim to evaluate the effectiveness or measure the impact of the NVC model in a variety of settings and with a variety of methodological approaches. Therefore, this systematic review falls into the category of *validation* of a theory (Dixon-Woods *et al*., 2006), instead of *generating* theory by means of interpreting the findings.

The review has aimed to gather the available studies on the application of the NVC model without specifically targeting the outcome of empathy development. Because the NVC approach to communication is not only particularly conceived for the development of empathy, it was relevant to try to discover how important the development of empathy was amongst other outcomes, and how empathy might be related to other factors such as conflict resolution or relationship improvement.

In fact, Rosenberg himself suggested to Steckal, the first researcher to dedicate a study to the NVC model, that empathy should be considered as a variable.

The NVC approach is a well-established and defined theoretical model, and all the studies show fidelity to the original model, though the methods for validating it may vary considerably. Even though NVC was not conceived as 'empathy training´, 'violence prevention program', or as 'anti-bullying program', it can and has been applied as such (Little, 2008; Little et al., 2007).

4.2 Quality Assessment

NVC research is still in its early stages. There is no single randomized study dedicated to it, and the majority of studies are unpublished theses or dissertations. The efforts to produce evidence on the impact of NVC emerge principally from self-funded initiatives. The selection criteria commonly applied in meta-analysis, such as only selecting RCTs, would have destroyed any attempt at a literature review about NVC from the beginning. However, only including quantitative studies would have greatly undermined the utility of such literature review. The social nature of NVC and its applicability to different settings and populations makes its qualitative studies valuable in developing further research and implementing policies. Therefore, because of this scant evidence, a review including quantitative and qualitative studies would allow analyzing the findings and gaps in current NVC research.

To this extent, this review has sided with Dixon-Woods et al.'s (2006) stance of prioritizing "papers that appeared to be relevant, rather than particular study types that met particular methodological standards" (p. 4). Even though the quality assessment of the studies will help to establish a 'hierarchy of evidence', based on the extent to which the results can be considered valid, the studies will mainly be taken into consideration for their relevant insights, independent of the successes discovered in the findings.

Due to the heterogeneity of study methods, and as the validity of a study relies mainly on the methodology applied, the quality assessment will examine at great depth the details of the study design, specially the way it is reported. Actually, it is only possible to examine what is reported within the study and "thus studies can only be as good as their reporting" (Booth *et al.*, 2012, p.116). Several studies included in this review do not report enough details about the methods used. This results in failure to properly to assess the validity of the results.

Booth *et al.* (2012) advice of not using scoring checklists has been followed here. First, it seemed particularly dangerous in my case, because I am the sole assessor of quality and, second, because checklists are not particularly helpful in understanding "how the study strengths and weaknesses contribute to the validity of the study findings" (p.113).

The choice of quality assessment and checklists has not been a straightforward process for two reasons: a) this choice was made faced by the nature of the research question of this review, which does not focus on a single issue such as the effectiveness of a treatment, and b) the review was not constrained to studies of a given design such as randomized control trials. On the contrary, due to the intentional broadness of the research question, the studies selected covered a number of different issues and employed a range of designs. Therefore, I ruled out the use of study checklists dedicated to a single design study.

The objective in the selection of the quality checklists has been to gather enough study design details to be able to asses to what extent the results can be considered valid and reliable with a process as objective and explicit as possible. The Standard Quality Assessment Criteria for Evaluating Primary Research Papers developed by Kmet *et al.* (2004) seems appropriate for this kind of review, gathering heterogeneity of topics and non-randomized research methods. This quality checklist is used in its integrity for the quantitative studies (Appendix F).

Due to the lack of randomized studies, the quality assessment has been complemented with an analysis of the quantitative studies following the guidelines for non-randomized studies developed by the Non-randomized Studies Method Group of the Cochrane Collaboration (Reeves *et al.*, 2008).

The choice of a quality assessment checklist for qualitative studies was even more complicated, as there is little consensus on how quality assessments should be undertaken (Dixon-Woods *et al.*, 2004, Booth *et al.*, 2012). A primary flaw in a number of the included studies is the lack of reporting. Therefore, Carroll *et al.*'s (2012) quality assessment criteria have been selected for their emphasis on the adequacy of reporting. This checklist focuses on the elements of the study that are more easily judged, namely, in the process of "determining whether each publication clearly describes the question and study design, how participants were recruited or selected, and the methods of data collection and analysis used". (Carroll *et al.*, 2012, p. 1427).

Added to the above points are some items from the Standard Quality Assessment Criteria for Evaluating Primary Research Papers from a Variety of Fields for qualitative studies (Kmet *et al*., 2004). All criteria selected are similar to other more extensive quality checklists (Barnett-Page & Thomas, 2009; Thomas & Harden, 2008, Dixon-Woods *et al*., 2004; Mays & Pope, 1995). Complete checklist can be found in Appendix G.

The relatively small number of criteria was chosen based upon Carroll *et al*.'s argument that "more extensive checklists have been found to generate low interrater reliability scores even among experienced qualitative systematic reviewers" (2012, p. 1427).

These criteria focus on whether the methods are reported in enough detail rather than on their appropriateness or on the manner in which they were conducted. This perspective implies that, even ill-reported studies can be well conducted and yield significant insights.

The quality analysis of the qualitative studies has also been complemented with the Cochrane Collaboration key points for critical appraisal of qualitative studies (Hannes, 2012).

Quality checklists, narrative description and tabulation of study features and methodology adequacy will be presented.

4.3 Selection Criteria

The specific eligibility criteria for inclusion were as follows:

a) Empirical studies, producing quantitative or qualitative data, with or without a control group. These would include: 1) randomized experiments; 2) experimental-control comparisons with before and after intervention measures; 3) other experimental-control comparisons; 4) quasi-experimental studies, without control, presenting pre-post intervention comparison; 5) case studies and 6) reports and surveys on training's effectiveness and impact.

b) The NVC model or principles are applied in an intervention. The study must acknowledge the use of Marshall Rosenberg's model and approach.

c) When the model of communication is presented by a different name, the author(s) must acknowledge the affiliation to the Marshall Rosenberg's model, and the content of the training/program needs to be described in detail to be able to verify its fidelity to the original model.

d) No restriction criteria concerning the number of participants.

e) Minimum restriction criteria concerning the quality of the study or reporting according to Carroll *et al*. (2012). Those minimums criteria include: clear description of question and study designs, how participants were recruited, and selected, and the methods of data collection. A lack of description of an analysis used will not be cause for exclusion.

f) No restriction criteria regarding the population or settings.

g) No restriction criteria concerning written languages.

Exclusion criteria were as follows:

a) Theoretical descriptions and evaluations of the NVC model.
b) Descriptions of programs including NVC model.
c) Theoretical dissertations and thesis.
d) Lack of reporting regarding: number of participants, number of interventions, and description of data collection.

4.4 Location of studies

To identify potential studies a multi-step systematic process was used.

1) A literature search of major electronic databases, including published and unpublished material, using word searches by pairs: *nonviolent-communication, empathy-conflict, empathy-reconciliation, nonviolent-conflict, Marshall Rosenberg, active listening, nonviolent conflict, non-violent, and empathy training*. A list of the consulted databases can be found in Appendix A. This search yielded 2,634 results.
2) Reading titles and abstracts. At this stage, the initial bulk of possible studies became reduced to six.
3) Magazine hand searching was not considered convenient for three reasons: a) research on NVC is still in its early stages and almost all research done is still unpublished. Of 13, only three published papers are included in this systematic review.
   b) The field of NVC is quite small and well connected. For that reason, any study on the subject is generally known to the international NVC community and discussed in related websites. c) Research on NVC has been conducted in many different fields: psychiatry, sociology, education, correctional, restorative justice and e-coaching. It did not seem sensible to try to select which magazines could yield a possible study, as an electronic search utilising related websites proved more productive.
4) A consultation of experts in the field throughout the world was intensively undertaken. The Centre for Non-violent Communication (www.cnvc.org) makes available most of the research done in English and German. Leading researchers in Brazil, and Brazilian databases, were also consulted due to the presence of NVC in the Brazilian restorative justice system. These contacts yielded five more studies that were included and three that were not. Though extremely valuable and informative, this source has offered a low output in providing actual reports and additional clarifications. Only a handful of people contacted answered my requests for material or information.
5) Follow-up of references and quotations yielded two studies that were included and three that were not.
6) In-depth reading produced the definitive included studies (13) and two more exclusions.

A few studies and papers that met the eligibility criteria were not included. A list with the excluded studies and reasons for exclusion is presented in Appendix B.

There are a significant number of projects and experiments on NVC from whose details or information about their reporting could not be obtained. In some cases, experiments that produced reports were not made available to me or I was unable to find them. All persons/entities related to the known projects were contacted via email: 90% had not answered by the date of writing the review, and the remaining 10% could not be found. Among them, notable for the number of participants, are the NVC projects that took place in Serbia, Italy, Israel and Palestine from 1993 to 2008, Sweden in 2001, and Seattle, Washington, from 2001 onwards. N. I. Savic and Vilma Cossetti, head researchers for the Serbian and Italian projects, respectively, have passed away recently. A list of these programs and projects is presented in Appendix C.

Should any of these reports have been found and met the eligibility criteria, their additional data might have significantly altered the conclusions of the review.

Fourteen studies –reporting 13 research studies-- met the inclusion criteria and are listed in Appendix D. The two reports referring to the same study offer almost identical data, and only the published paper (Beard *et al.*, 2009) will be quoted in this review.

5.RESULTS

Table 2. Characteristics of Studies Summary (N= 13)

Characteristics	N	%	Characteristics	N	%
Publication Year			**Form of Publication**		
1990s	3	23	Published (peer review)	3	23
2000s	10	76	Unpublished	10	76
Country of Study			**Study Type**		
USA	6	46	Quantitative	3	23
Canada	2	15	Qualitative	2	15
United Kingdom	2	15	Mixed	8	61
Italy	1	8			
Serbia	1	8	**Participant/Group recruitment**		
Germany	1	8	Volunteering	10	76
			Other researcher action	5	38
Comparison groups					
Treatment			**Group assignment**		
to control	7	53			
None: pre-post	4	31	Non-random (individuals)	6	61
No comparison:			Non-random (groups)	4	31
post survey	1	8	Both	2	15
Doesn't apply	1	8	Doesn't apply	1	8
Assignment Protocol			**Sample size**		
Tested for			Up to 30	3	23
equivalence	2	15			
Matched groups	4	30	31-60	3	23
Institution/					
Researcher			+61	7	53
choice	3	23			
None	1	8			
Doesn't apply	3	23	**Gender Mix**		
			Only females	1	7
Age			Only males	1	8
From 6 to adults	1	8	Mostly females	2	15
From 8 to adults	1	8	Mixed	1	8
8-14	1	8	Cannot tell	8	61
15-18	1	8			
18+	9	69			

Race

White	2	15
Other	1	8
Cannot tell	10	76

Socioeconomic status

Predominantly low	2	15
Mixed, full range	1	8
Cannot tell	10	76

Risk for Antisocial Behavior

General,		
Very low risk	10	23
At-risk	3	23

Intervention routine

Research workshop	7	53
Funded program	3	23
Part of curriculum	2	15
Other	1	8

Timing Posttest

Immediate post-test	7	53
Post-test		
+ 2-52 weeks	5	38

Implementation Problems

Yes	3	23
No	10	76

Duration of Intervention

- 5 hours	2	15
5-10 hours	5	38
11 hours +	5	38
Cannot tell	1	8

Intervention Setting

School	3	23
Educational Institution	6	46
Purposive workshop	4	31

Informant

Self-report	8	61
Parent report +		
Teacher report		
+ self-report	2	15
Third person report +		
self-report	1	8
Researcher observation	2	15

Intervention deliverer

Certified trainer	5	53
Trained Institution staff	2	15
Both	2	15
Certified trainer/Researcher	3	23
Cannot tell	1	7

Outcome measures

Researcher made instruments	7	53
Validated Measures	3	23
Both	1	7
No scales	2	15

Role Evaluator

Delivered treatment	3	23
Supervised delivery	5	38
Influential but not delivery	5	38

Impact target

Of training (general)	3	23
Of training (specific skills)	5	38
On real life	5	38

Results

Positive	11	84
Negative	2	15

Statistics			Research focus		
Statistically significant	5	38	Empathy	1	8
			Conflict	1	8
No statistically significant	2	15	Communication skills	1	8
			Various	10	76
Practically significant	6	46			

Funding			Empathy Research		
Funded completely or partially	7	53	Only empathy	1	8
			Empathy and other variables	9	69
Not funded	5	38	No empathy	3	23
Cannot tell	1	8			

5.1 Synthesis

This systematic review will use the narrative synthesis approach, because it "focuses on how studies addressing a different aspect of the same phenomenon can be narratively summarized and built up to provide a bigger picture of that phenomenon" (Booth *et al.*, 2012,p. 146). The realist synthesis is also found relevant in this context because it brings together different types of research data, quantitative and qualitative. The realist synthesis accommodates research evidence from a range of study types in order "to test, revise and refine the preliminary theory" (Pawson, 2006 in Booth *et al.*, 2012, p. 158).

Eight studies have mixed study designs, combining quantitative data (group comparison or a single group pre-post intervention test) with open-question questionnaires, interviews, or focus groups. In general, the mixed-methods studies undertake the qualitative research as a refinement or amplification of the quantitative research.

There are only two purely qualitative studies dedicated to two specific subjects: the impact of NVC on openness in e-relationships (Cox & Dannahy, 2005) and modalities of conflict (Nash, 2007). Otherwise, the studies investigate a number of different finding areas. There are also three purely quantitative studies, two of them dedicated to a specific outcome each: communication skills (Beard *et al.*, 2009) and empathy (Steckal, 1994). The third quantitative study (Altman, 2010) presents a variety of outcomes.

Nine studies target an adult population, one of them at an at-risk status (Marlow *et al.*, 2012). Three of these studies also include children and/or adolescents (Cossetti, 1999; Savic, 1996 and Nash, 2007). One study targeted young teenagers (Little *et al.*, 2007) and one targeted young adolescent girls from 16 to 18 years old and at-risk (Little, 2008).

The participant's characteristics reported in the studies focus mainly on age and gender and, to a lesser degree, educational background. Some studies also report socioeconomic status and ethnicity.

5.1.1 Methodology

In the quantitative studies, the recruitment of individual participants was done mainly through volunteering. When the assignment was done at a group level some sort of researcher selection took place which, in the majority of cases, was not specified. In Beard *et al.*, the group received the training on NVC as part of the curriculum.

In Cossetti and Savic, the assignment of the groups that received the intervention (which in this case are school classes) is undertaken because the teachers volunteered (Savic, 1996). Cossetti uses a control group but does not specify which criteria of assignment were applied. Summarizing:

- Eleven of the 13 studies used quantitative designs. Seven used a control group and four a pre-post testing comparison.
- Of the 7 studies that used a control group, none used a random assignation of participants. In five, the treatment and control were assigned by researcher action and criteria, and in two, the assignment protocol is not reported.
- Of the seven studies that used control group, one did not check the comparability of the participants between the two groups. Two of the seven studies tested for equivalence, and four did group matching.
- The two studies that did not use any comparison consisted of one cross-sectional post intervention survey, and a qualitative study. Altman conducted a double study: a longitudinal study with control group and a cross-sectional survey.
- The Nash case study implemented a quantitative analysis of the data comparing the group of staff that had training with the one that did not. This fact was known to the researcher only after data collection.
- In six studies, the recruitment/assignment was done individually, and in six other studies, it was done at group or class level. In two studies both levels of assignment took place. First, teachers volunteered individually for training, after which their pupils --with the whole class-- took part in the study, receiving the intervention either through direct training or through teacher´s applying of NVC principles.
- Of the ten studies including qualitative data, five used open-ended questionnaires, three used interviews, and two used focus groups. One (Cos & Dannahy) conducted a case study collecting data from several sources (student's reflective journals, email conversations, telephone calls, feedback, etc.) and another (Nash) undertook an observational case study only taking notes in the field.
- Three studies had fewer than 30 participants: Cox & Dannahy (three), Little (fourteen) and Marlow et al (thirty/nineteen); three studies had no more than 60: Little et al (57), Nash (50) Steckal (41); and seven had more than 61 participants: Altman (176), Beard *et al.* (557), Blake (120), Branscomb (108),Burleson *et al.* (89), Cosetti (686) and Savic (597).

Ten studies were realized from 2000 onwards, with only three pioneering studies completed in the 1990s. In addition, the majority (ten) are unpublished studies, mainly master and doctoral theses, with only three peer-reviewed papers. Six studies were done in the United States, four in Canada and the rest in Europe. Seven studies were completely or partially funded.

Table 3. Sampling and methods

Study	Population	N in each group(1) Intervention	Control	Group assignment protocol(2)	Group comparison(3)	Single group Study (4)	Outcome Scales (5)	Type of measure	Qualitative Studies(6)
Altman, T.	General population.	1= 156, 2=10	2=10	2=Tested for eq.	PP, TC	--	S-O, S-E-,C,L,RM	Self-reported	--
Beard, J. *et al.*	Junior doctors	557	-	-	-	PP	RM	Self-reported	--
Blake, S.	Communication students a.18-29	59	61	Matched groups	PP, TC	-	V, O	Self-reported	Q
Branscomb, J.	General population. English speaking adults	108	-	-	-	RS	RM	Self-reported Observer reported	Q
Burleson, M. *et al.*	General population: 1) participant in training, 2)Affiliated to listservs, 3)Expert in NVC. (Adults)	11/69/9	-	-	-	S	RM	Self-reported	Q, F
Cossetti, V.	Primary School children (2ND to 5th) Teachers , and parents	117 29/43	102	Matched groups	PP, TC	-	RM	Self-reported Observer reported	O
Cox, E. & Dannahy, P.	Master degree students on e-coaching and mentoring.	3	-	-	-	-	-	-	Case Study
Little, M. *et al.*	Adolescents (aged 13-14) Maj. South-East Asian Canadian	29	29	Tested for eq.	PP, TC	-	RM	Self-reported	I
Little, M.	Adolescents girls pregnant or parenting (Aged 16-18). Caucasian	7	7	Matched groups	PP, TC	-	RM	Self-reported	I
Marlow, E. *et al.*	Male parolees. (Aged 18 +)	19	-	-	-	PP	B, RM	Self-reported	I, F

Nash, A.L.	Staff in educational institution	20	30	None	TC	-	RM	Observation	Case study
Savic, N.I.	Psychologists-teachers/children (6000 pre-school, 3100 aged 7-14, 130 adolescents)	567/9330	-	-	-	PP,F	RM	Self-reported Observer reported	O,Q
Steckal, D.	General population. (Adults)	21	20	Matched group	PP, TC	-	S-O, I, O	Self-reported	-

(1) Number of participants at the end of intervention or study.

(2) Group assignment protocol: The method by which the participants were assigned.

a. Tested for equivalence; b. Matched groups, c. Researcher: when researcher allocates the groups to control or intervention; d. Funder: when the intervention is included in a pre-established curriculum; e. Not-reported.

(3) Group comparison: PP= Pre-post intervention, TC= Treatment to control, TT= Treatment to treatment, F= Follow up.

(4) Single group study: PP= Survey pre-post intervention, S=Survey post intervention, RS=Repeated measures survey, CS= Cohort survey of population having had treatment in the past.

(5) Outcome Scales: I= Interpersonal Reactivity Index,

S-O= Steckal Self-Other empathy,   SE= Morris Rosenberg Self-esteem Scale (1965)

L= Levenson´s Multidimensional Locus of Control Scale; C= customized Scale;

RM= Researcher made scale; V=Verbal Aggressiveness Scale (Infante & Wigley, 1986);

B=Balanced Emotional Empathy Scale (Mehrabian, 1996); O=Other Empathy Scales (i.e.Stiff et al, 1988)

(6) Qualitative studies: I= Interview, Q= Open-ended questions, F=Focus group, O=Observation

5.1.2 Focus, themes and objectives

The research questions of the studies either investigate the impact of NVC or the effectiveness of NVC, or both, in a number of areas.

Table 4. Studies based on aetiology or effectiveness focus.

Studies	Aetiology	Effectiveness
Altman	X	
Beard et al		X
Blake	X	X
Branscomb	X	X
Burleson et al		X
Cosetti	X	
Cox & Dannahy		X
Little et al	X	
Little	X	X
Marlow et al	X	
Nash	X	
Savic		X
Steckal	X	

In spite of this distinction, the research questions happen to be very similar. For example, some studies examine the impact of NVC on participants' empathy (Steckal, 1994) and other look for the efficacy of NVC in developing empathic behaviour (Altman, 2010). Others look for the impact of NVC on communication (Blake, 2002; Branscomb, 2011; Burleson *et al.,* 2012) or measure the effectiveness of NVC to improve communication skills (Beard *et al*., 2009). For this reason I have summarized the main research focuses and outcomes —either from quantitative or qualitative studies—as themes and areas of findings.

The studies focus on five major themes:

1. The effectiveness of NVC training in increasing competence to differentiate NVC key concepts (Observation versus evaluations; feelings versus thoughts; needs versus strategies; requests versus demands).
2. Impact of NVC in empathy development
3. Impact of NVC on communication skills, habits, styles, verbal aggression.
4. Impact of NVC on relationships, and by extension, quality of life and well-being.
5. Impact of NVC on conflict: conflict styles, responses to conflict, handling conflict, participating, opting out.

Grouped under communication are themes such as verbal aggression, expression of the self, expression of feelings. Some authors focus on specific skills, i.e. Little, who discusses knowing how to translate thoughts into feelings and needs.

Grouped under relationships, are compassion, connectedness, openness and cooperation.

The theme of conflict includes willingness to join in when witnessing violence, initiating conflict, withdrawal, and seeking nonviolent resolution of conflicts, among others.

This summary is forcibly reductionist. Each study focuses on a net of interrelated outcomes according to its theoretical "flavour". A relation of the different theoretical frames of reference is found in Appendix H.

The objective of these studies is to measure or observe the impact or effectiveness of the NVC model in two main areas:

a. Effects of training: General effects, or on individual specific skills: communication, empathy (eight studies).
b. Real-life situations: On group/environment/particular context: school climate, modalities of conflict (5 studies).

In all studies, the intervention is conducted in educational settings: three in kindergarten, primary and secondary schools; six in other educational institutions, including colleges, deaneries, e-learning contexts, and educational programs for young at-risk; while four were workshops organized for the purpose of the study.

The real-life situation studies are based on the observation of the interactions of one or more individuals who had some training in a particular environment. This fact was known by the other participants, with the exception of the Nash study in which the researcher and students are ´blind´ as to who among the staff have received training.

Following Kirkpatrick's (1994) classification of training outcomes:

Level 1: reaction (trainee's opinion about the training)

Level 2: learning (how much the trainees have learned)

Level 3: transfer of learning from training to everyday life.

Level 4: results (the impact on the organization, environment, clients)

Four studies present results up to level 4, with long term effects and impact on organization/individuals (Burleson et al, 2012; Cossetti, 1999; Little, 2008 and Savic, 1996).

Three studies present results up to level 3, with data reporting the way participants apply NVC techniques in their everyday lives (Branscomb, 2011; Little *et al*., 2007 and Marlow *et al*., 2012).

Four studies present results up to level 2: degree of learning of the training contents and participants satisfaction (Altman, 2010; Beard *et al*., 2009; Blake, 2002 and Steckal, 1994). Three of these studies use validated measures, and the outcomes focus on the findings of these scales.

The two qualitative studies (Cox & Dannahy, 2005 and Nash, 2007) present results directly of level 4: the impact of NVC on the organization and environment.

With the exception of Steckal (empathy) and Beard *et al.* (communication), all studies investigate a variety of outcomes.   Marlow *et al*.'s study focuses primarily on the development

of empathy, and also investigates other related subjects such as the implementation of the process in real life.

Ten studies (all except Beard *et al*, Cox & Dannahy and Nash) investigate empathy as a variable to a higher or lesser degree. Steckal, Altman, Blake and Marlow *et al*., specifically target the development of empathy with validated measures; the others (Branscomb,2011; Burleson *et al*., 2012; Cossetti, 1999; Little, 2008; Little *et al*., 2007; and Savic, 1996) tackle the subject of empathy, not only the degree to which the skill has been developed, but they also investigate other qualitative aspects of the empathic process.

5.1.3 Intervention

Interventions follow the same contents and procedures, with slight variations. The intervention is delivered in most cases (nine) by a certified trainer. When the intervention is not delivered by a certified NVC trainer, this variable can become a confounding factor, or mediator, as we will see in Blake when considering the disconfirming cases.

In the two qualitative studies (Cox & Dannahy, 2005; and Nash, 2007) the impact of NVC is observed through the interaction of staff having received training. This interaction does not imply teaching the model as in Blake, in which a college teacher had a briefing about NVC and needed to deliver a workshop to the students.

In three cases (Little,2008; Cossetti, 1999; and Savic, 1996), the researcher is also the certified trainer delivering the intervention .This fact is likely to have an impact in the outcomes, as it could be considered a 'therapist effect', therefore affecting the validity of the study.

In Savic and Cossetti, the researchers are the initiators of a cascade method of training. They trained a group of teachers who, in turn, trained another group of teachers. This final group of teachers trained their own students. In the remaining studies, the researcher exhibits diverse degrees of implication in the delivery of the intervention, mainly organizing, supervising and conducting the data collection.

The majority of interventions lasted from five to 40 hours and were delivered in one day workshops or more than one week-end, over several months of ongoing workshops. Two studies delivered workshops shorter than five hours.

Table 5. Interventions' characteristics.

Study	Intensity/duration	Delivered by	Ingredients	Results	Funding
Altman, T.	3 week-ends x 10.5 hours =31.5 hours	Certified trainer	Reading material, presentations, role-play, exercises, pair-work.	Positive and Neutral	No
Beard, J. *et al*.	2 days, no specified number of hours	Certified trainer	Presentations, group discussions, pair-work, self-reflection, role-play	Positive	South Yorkshire and South Humber Deanery. Life at Work Ltd.
Blake, S	2 days x 1hour = 2 hours	Briefed staff	Oral instruction, videotapes, group exercises.	Neutral	No
Branscomb, J	1 day x 6 hours= 6 hours	Certified trainer	Presentation, reading, role-play, pair-work and group exercises.	Positive	Partially by Sacred Space Inc.
Burleson, M. *et al*.	NVC trainings in general	Certified trainer	Not specified	Positive	Sacred Space Ltd.
Cossetti, V.	1)Teachers: 84 h. 2)Children 'mediators': 16.38 h. 3)Parents: 8.5 hours. Spread in one year.	Certified trainer. Trained staff.	Presentations, role-play, exercise, discussions and tests.	Positive	EU and local institutions.
Cox, E. & Dannahy, P.	Four months	Trained staff (tutor)	Manual given to participants. Tutor applied NVC model.	Positive	Partly by British University
Little, M. *et al*.	8 weeks x 1.5 h = 12 hours	Not reported	Not reported	Positive	Cannot tell
Little, M	6 weeks x 1.5 h= 9 hours	Researcher. Certified trainer	Presentations, role-play, video-clips, games, group exercises, role-modeling, brainstorming.	Positive And Neutral	No
Marlow, E. *et al.*	8 weeks x 1 h = 8 hours	NVC expert	Not reported	Positive	Partly by community
Nash, A.L.	4 hours session	Certified trainer	Not reported. Practice sessions: Empathy circles	Positive	No
Savic, N.I.	1)Trainers: 48 hours 2)Children: 45 min, twice a week. Along 1.5 school years.	Certified trainer. Trained staff.	1.Presentation, group work, experiential examples, role play, discussion. 2. Listening poems and stories, games, discussions, drawing, pantomime, role plays, dramatization, written work.	Positive	UNICEF. Local institutions.
Steckal, D.	7 hours session	Marshall Rosenberg	Not reported. The standard NVC training conducted by M. Rosenberg includes presentations, exercises and role play.	Positive	No

5.1.4 Measures/Scales

With the exception of the two qualitative studies, all the others used outcome measure scales. From those 11 studies, eight developed their own instruments. The three studies using validated scales do not use the same, only Altman and Steckal employed the Interpersonal Reactivity Index (IRI)(Davis, 1980) --and Altman used a customization of it (Paulus, 2009)-- along with the Self-Other Empathy Inventory (S-OE) (Steckal, 1994). Other validated measures employed are the Balanced Emotional Empathy Scale (BEES) (Mehrabian, 1996) in Marlow *et al.*, and the Empathy Measurement Scale (EMS) (Stiff *et al.*, 1988) in Blake. Various validated measures related to outcomes other than empathy are also used, therefore, to the heterogeneity of designs needs to be added heterogeneity of measures.

The majority of measures are self-reported (eleven studies). Branscomb adds to the survey a single test (to the other self-reported four) filled by an identified participant observer. Cossetti and Savic also collect data reported from teachers and parents with observations of children's behaviour.

The main limitation of the measures used is that validated ones measuring empathy are not congruent with the NVC empathy construct and its three components: cognitive, emotional and behavioural. In fact, these scales only measured the effectiveness of part of the training. The tailored tests created by the researchers, present a more satisfactory content and construct validity, and are able to measure more accurately the content and integration of the model, but lack on reliability.

Steckal developed an empathy measure that had some validation shown from a previous pilot test, and additional validating measures in the present study (Coefficient Alpha= .71 and test-retest. Content validity and internal reliability was satisfactory = 0.70).

Little has developed a test to measure the competence in understanding and applying the NVC key differentiations linked to her training called 'Total Honesty/Total Heart' (Little *et al.*, 2007; Little, 2008); this measure is used in her two studies. The test includes a section in which the participant must translate thoughts into feelings and needs, which constitutes a step in the NVC empathic process. Due to the small number of participants, alpha values and reliability coefficients have not been established for this instrument. All measures used to test the capacity to differentiate the key NVC concepts (Altman,2010; Branscomb, 2011; Little, 2008; and Savic, 1996) present very similar items.

Table 6, below, shows the subjects included in the researcher-made measures.

Table 6. Subjects included in the instruments created by researchers.

Study	Rep/ Not Rep*	Key differen-tiations	Sharing, applying, learning NVC	Empathy, self-empathy	Impact on relationships	Course satisfac-tion	Experience or ideas re. conflict	Others	Rating
Beard *et al*.	NR	-	-	-	-	X	-	Communication skills	_
Branscomb	R	X	X	X	X	X	X	-	Likert scale. Choice between two options.
Burleson *et al*.	R		X	X	X			Change of values, Well-being.	Likert Scale. Choice between several options.
Cossetti	R	X		X	X		X	Change of values.	Likert Scale. Open questions.
Little *et al*.	NR	X					X		Not reported but mention using same as Little.
Little	R	X						More NVC differentiations.	Three options answers and open questions.
Savic	NR		X		X	X	X	Communication. Self-awareness.	Multiple choice answers.

Key differentiations: Observation *versus* evaluation; Feelings *vs.* thoughts; Needs *vs*. Strategies; Requests *vs*. demands.

* R: Reported, described in detail. Details of questionnaires and items added in appendices. NR: Not reported

5.2 Analysis

5.2.1 Quality assessment

The Non-randomized Studies Methods Group of the Cochrane Collaboration (NRSMGCC) asserts the benefit of including such studies in Cochrane Systematic Reviews (CSR) in cases in which a) the intervention cannot be randomized, b) when it is very unlikely to be studied in a randomized trial, or when c) there are not randomized studies available, as in this case. However, the group warns about the greater risks of potential bias of non-randomized studies (NRS) compared with randomized studies.

These risks, therefore, can be extended to all the studies included in this review.

The risks of bias shared by all the studies selected can be encountered at all levels:

a) Weaker designs, with lower potential to ascertain causality,
b) In the execution of the study, mainly selection bias and confounding, and
c) Reporting biases, including selective reporting of outcomes.

The major handicap in NRS is not only the lack of 'representativity' of the groups, but the possible imbalances between the intervention and the control groups (Reeves *et al.*, 2008) with its subsequent confounding.

An advantage of this review is that there are no RCTs and therefore no danger of combining or correlating results among hierarchically distant levels of evidence.

The Cochrane guidelines rank the risks of bias according to study features, which are preferred to labels. There is a big heterogeneity associated with NRS, and different interpretations exist of the use of labels such as case-control studies, cohort, and so on. For this reason, the guidelines are based on study features.

Table 7. Study features guidelines of the Non Randomized Studies Method Group (n.a.= not applicable. n.r. = not reported)
   of the Cochrane Collaboration.

Studies with allocation to interventions at: Group level   Group and Individual Level   Individual level

Study features	Beard et al.	Blake	Little et al.	Cossetti	Savic	Altman	Branscomb	Burleson et al.	Little	Marlow et al.	Steckal
Was there a comparison?											
Between two or more groups of clusters/participants receiving different interventions?	No	Yes	Yes	Yes	No	Yes	No	No	Yes	No	Yes
Within the same group of clusters/participants over time?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Were clusters/participants allocated to groups by?											
Concealed randomization?											
Quasi-randomization?							n.a.	n.a.		n.a.	
By other action of researchers?		Yes	Yes	Yes	Yes	Yes			Yes		Yes
Time difference?											
Location difference?											
Policy/Public Health decisions?	Yes			Yes							
Cluster preferences?											
On the basis of outcome?											
Some other process? (specify)											
Which parts of the study were prospective?											
Identification of participating clusters/participants?	n.a.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Assessment of baseline and allocation of intervention?	Yes	Yes	Yes	n.r.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Assessment of outcomes?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Generation of Hypothesis?	No	Yes	No	No	No	Yes	No	No	No	No	Yes
On what variables comparability between groups was assessed:	n.a										
Potential confounders?		No	No	No	n.a.	No	n.a	n.a.	No	n.a.	No
Baseline assessment of outcomes variables?		Yes	Yes	Yes	n.a.	Yes	n.a.	n.a.	Yes	n.a.	Yes

Instead of a prospective list of confounding variables, a number of studies reported logical reasoning of the effects of potential moderator variables on the generalizability of findings. This non-representativity of samples was owing to various factors, including the wide variety of participants' backgrounds (Altman, 2010), the scarcity of participants (Little, 2008), the levels of attrition (Branscomb, 2011), or changes in settings (Nash, 2007).

The assessment of quality shows a majority of moderate quality studies, mainly due to lack of reporting, use of measures not validated or low number of participants. The next chapter discusses these points.

5.2.2 Quantitative studies ordered by quality level:

(Details of quantitative studies quality checklists are shown in Appendix F)

High quality design/reporting:

- **Altman** presents high detail of methods and analysis of findings, sufficient number of participants for the cross-sectional study and validated measures. The longitudinal study, though, yielded unexpected results that do not correlate with the cross-sectional findings and refute the majority of the hypotheses. This study will be analyzed in greater detail when discussing the disconfirming cases.

High to moderate quality design/reporting:

- Branscomb
- Steckal
- Little
- Marlow
- Beard *et al*.
- Burleson *et al.*
- Savic

Steckal presents a well-designed and reported study which has benefited from a previous pilot to validate an outcome measure the researcher created. The actual study presents correlations with other validated measures in addition to a detailed analysis of findings that are statistically significant. Its main flaw is a low number of participants.

The main flaws of this group of studies are researcher-made non-validated measures or a low participation, with the exception of **Branscomb** (more than 100 participants); **Marlow *et al.,*** with few participants, but a validated measure (BEES), and the survey of **Beard *et al.*,** with more than 500 participants but no details about the questionnaire used .

Savic also conducted a very large study, with more than 9000 persons. The study, though, was made available without appendices, meaning there is no detail about the tests used.

Little demographic detail is given, and no apparent differences among the participants are accounted for. However, the implementation of the project, including training and tests is done with precision and consistency throughout the wide number and different types of participants, and, for this reason, alongside its substantial participation, its results may prove significant.

Moderate to Low quality design/reporting.

- Little *et al.*
- Cossetti
- Blake

Little *et al*. present a carefully designed study, though the reporting is done very schematically. No details about the allocation of groups and scanty details about their characteristics were reported. The experiment also uses the tests created by Little (2008) for her study which have not been validated yet and another unreported test on school climate. Its results are declared statistically significant by the Victoria University.

The use of not validated measures is also the main flaw in **Cossetti's** study. It is suggested that this study uses the same measures that other 'sister' projects do, such as Savic's, of the same period, and funded by the same institution. However there is a lack of reporting of major details or validation.

Blake uses validated measures but the details about selection and recruitment of participants are unclear. Also, the study shows little variation between experimental and control groups' results. This study will be analyzed in greater detail when discussing the disconfirming cases.

5.2.3 *Qualitative studies ordered by level of quality*:

(Quality checklist for qualitative studies is shown in Appendix G)

The Cochrane Collaboration core criterion in assessing the methodological quality of qualitative studies is the evaluation of researcher bias or to what extent the findings are believable and hold true (Hannes, 2011).

To evaluate the trustworthiness of findings, Lincoln and Guba (1985) translated the concepts of quantitative research into a terminology congruent with qualitative approach as it is shown in table 8. Evaluation techniques for assessing the qualitative points include:

- Credibility: member checks, peer debriefing, attention to negative cases, verbatim quotes, etc.
- Transferability: providing enough details of study participants to identify the group targeted; contextual background information, etc.
- Dependability: audit trails, triangulation, reflexivity, self-critical account, debriefing.
- Confirmability: assessing researcher's effect throughout the whole process, providing information on researcher's background, etc.

Table 8. Cochrane Collaboration's critical appraisal key points for qualitative studies (Hannes, 2011).

Studies	Aspect Quantitative Term	**Truth Value** Internal validity	**Applicability** External validity or generalisibility	**Consistency** Reliability	**Neutrality** Objectivity
	Qualitative term:	*Credibility(1)*	*Transferability(2)*	*Dependability(3)*	*Confirmability(4)*
Blake	Verbatim quotes only		No reporting	No	No report
Burleson et al.	Yes		partly	Yes	No report
Cox & Dannahy	Yes		partly	Yes	Yes
Little et al.	Verbatim quotes only		partly	No report	No report
Little	Verbatim quotes only		partly	partly	No report
Marlow et al.	Yes		Yes	partly	No report
Nash	Yes		partly	Yes	No report
Savic	No report		partly	No report	No report

The best quality and better reported studies are:

- Cox & Dannahy
- Nash

Even though **Nash**'s is a well-designed and reported study, it suffers from a limitation of setting because of the high turnover of the staff observed, and the number and regularity of observational sessions, meaning data collection is somewhat impaired.

From high -to moderate- quality reported studies:

- Marlow *et al.*
- Burleson *et al.*
- Little

In **Marlow *et al.*,** the methods of data collection and analysis are reported somewhat schematically, maybe due to the word count constraints of a published paper. With this exception, the remainder of the study features are detailed and well argued. The fact that it is a peer-reviewed published study may support its rigor and quality of design.

Burleson *et al.* and **Little** suffer also from lack of detail on the method of data analysis. They do not mention what type of analysis approach (Grounded Theory, Ethnography, and so on) they employed. Burleson *et al.* conducted triangulation of data.

Branscomb explains that she made a qualitative study by adding an open question to each test. However, no results about these open questions are reported.

The less reported studies are:

- Cossetti
- Little *et al.*
- Blake

Cossetti presents in great detail the results of her study, but the qualitative part is presented in a confusing manner. As far as I understood, the qualitative analysis was used to gather information from the children about what they consider 'unpleasant situations' in the school. The categories emerged from the answers given (the process of emergence was not reported) and are used in a questionnaire pre-post intervention to detect improvements in school climate and conflicts.

Therefore, the qualitative data is only a tangential aspect of the main study.

Little *et al.*, again, presents detailed findings but has no reporting on how they arrived to their conclusions and themes.

Blake presents only a small part of the qualitative study. She suggests that the reminding data was not relevant to the study. The themes presented are not linked to a concrete process of analysis.

The mixed methods studies (Blake, 2002; Burleson *et al.*, 2012; Little *et al.*,2007; Little, 2008; Marlow *et al.*, 2012; and Savic, 1996), present different levels of quality between the quantitative and the qualitative data. This is primarily due to the small number of participants in the experimental and control groups. Little is a notorious case in which the qualitative study is far superior, though there is a lack of reflexivity and detail of the analysis method. Little *et al.* offer a quite balanced level of reporting and quality between both sets of data. In the other cases, the qualitative study has a more informal character than the quantitative study, in the form of comments that can supplement the quantitative data, and little care is put into the reporting of methods.

5.3 Findings

5.3.1.General outcomes

Eleven studies present positive results, five of them statistically significant. The other six are practically significant as the results are numerically presented in percentages without statistical analysis (details are shown in Appendix E). Little gets positive results in all measures, but due to the small number of participants considers them not statistically significant. Two studies, Altman and Blake, present neutral or negative results, because they do not confirm or support the hypothesis. In both cases, there are not significant differences between experimental and control groups' findings. These two disconfirming cases will be discussed later.

The findings revealed also the challenges that participants encountered in the application of the model in their everyday lives, notably in the studies where there was a follow- up or a post-test conducted after several weeks (Little, 2008; Branscomb, 2011; Burleson *et al.*, 2012; Marlow *et al.*, 2012, Savic, 1996). Participants felt insecure in their abilities to apply the model or afraid of others' reactions. Participants felt more at ease using the techniques with their close relatives. However, studies involving children and adolescents, pointed out the quickness by which participants were able to apply the techniques and integrate the language.

This fact was specially emphasised by Little *et al.* (2007). There is a possibility that age plays a role as a moderator in the integration and implementation of the model.

5.3.2. Empathy development

In spite of the heterogeneity of empathy scales measuring different aspects of empathy (emotional empathy, perspective taking, empathic concern, and so on), nine of the ten studies produced positive results. Altman yielded positive results in the cross-sectional study.

Tables 9, 10 and 11 show details of general and empathy development outcomes.

Table 9: General outcomes.

Studies/ Outcomes	Altman	Beard et al.	Blake	Branscomb	Burleson et al.	Cossetti	Cox & Dannahy	Little	Little et al.	Marlow et al.	Nash	Savic	Steckal
Competence in key differentiations	X			X				X	X			X	
Higher self-esteem	X											X	
Coping with feelings	X												
Locus of control (Levenson, 1974)	X												
Empathy :													
General	X		X	X	X	X				X		X	X
Self-empathy	X							X	X	X		X	X
Empathy for others	X							X	X	X		X	X
Behavioral				X		X				X		X	
Communication:													
General skills		X	X		X	X	X			X		X	
Specific skills						X		X	X			X	
Less Verbal Aggression			X			X		X	X			X	
Better self-expression					X	X	X	X	X	X		X	
Better Listening					X			X		X		X	
Relationships improvement:													
In general					X	X	X	X	X			X	
More compassion/ connectedness				X	X	X				X	X	X	
More cooperation				X		X						X	
Openness							X						
Conflict:													
Better handling and resolution					X	X		X	X	X	X	X	

Not seeing conflict as negative								X	X			X	
Less withdrawal									X		X	X	
Less initiating and joining in									X		X		
Less verbal conflict				X	X			X					
Less physical conflict				X	X			X		X			
Share NVC tools				X	X			X					
Willingness to get more support/ Training				X	X							X	
Others: *Quality of life*				X	X								
Change of values					X	X						X	
Increased self-awareness					X							X	

5.3.4 Table 10. Development of empathy results of studies using <u>validated</u> empathy measures.

Studies	Empathy Measures	Outcome	Comments
Steckal	a.Self-Other Empathy Inventory (Steckal, 1994), b.IRI (Davis, 1980), c.The Helpful Responses Questionnaire (Miller, Hendrick and Orlafsky, 1991). d.Marlow Crowne Social Desirability Scale-Short form (Straham and Gerbasi, 1972	a. Higher levels of empathy and self-compassion. b. Higher scores in Perspective taking and less empathic concern. c. Higher empathy.	No significant correlation was found between a. and d. IRI measures empathy as a trait. Also identifies sympathy with empathy. Nevertheless, high correlations were found between S-O empathy inventory and perspective taking and empathic concern items of IRI.
Altman Cross-sectional studies	a.Self-Other Empathy (Steckal). b.'Saarbrücker Persönli-chkeitsfragebogen'or SPF, (Paulus, 2009), a custo-misation of IRI .	Positive	Appendix J shows comparison between IRI and SPF
Altman Longitudi-nal studies	Same measures	No significant changes pre-post intervention between the experimental and control group.	See Appendix I for detail on contradictory outcomes between cross-sectional and longitudinal studies in all measures.
Blake	Empathy Measure-ment Scale or EMS,(Stiff *et al*. (1988)	No significant changes pre-post intervention between the experimental and control group.	The EMS measures empathy as a trait. It shows wording not congruent with NVC with more emphasis on emotional contagion/personal distress than empathic concern (See Appendix K).
Marlow et al	Balanced Emotional Empathy Scale or BEES, (Mehrabian *et al*., 1988)	Increase from .50 (pre-test) to .93 (posttest).	BEES measures emotional empathy as a trait. The qualitative study revealed participants valued the new capacity for listening empathically and the empathic awareness of others' feelings and their own.

Table 11. Development of empathy and other empathy- related outcomes of studies using researcher made instruments.

Studies	Measures	Outcomes	Qualitative findings and comments
Branscomb	Section in Survey concerning: a) Self-compassion , b) Compassion towards others, c) Connection, d) Collaboration and e) Caring	Higher increases in b) and d)	B, c, d and e items concern closer relationships. Self-reported and observer- reported surveys are consistent. See Appendix L for details of survey.
Burleson *et al.*	Section of Survey concerning impact on individual needs	Most impacted were: Understanding (50.7%), Connection (48.4%), Compassion (44.9%)	Qualitative findings show increase of participant's awareness of own and others' feelings and needs and greater understanding of the concepts themselves. See Appendix M for details of survey.
Cosetti	Two items of school climate survey, teacher and parent reported, concerned behavioral empathy in children	Teachers find notable increase on children helping each other. Parents and teachers find increase in children finding help in the school	
Little	Section of tests to asses a) ability to identify own and other's feelings and needs, b) translate thoughts into feelings and needs	Experimental group participants demonstrated an average score increase of: 57% on self-empathy, and 76% on empathy in a). Only experimental group could give positive answers in b).	Whole test can be seen in Appendix N.
Little et al.	Same as Little.	Significant statistical increase in experimental group in both items.	Qualitative study reported student's new thinking, which included responding with empathy, learning how to stop ("when mad"), and listening to all sides of a conflict.
Savic	Survey question: "What is most important in NVC?"	Higher score: 47% = "receiving and empathizing"	Qualitative study reported insights concerning what was blocking compassionate responses to pupils.

5.4 Disconfirming cases

5.4.1. Altman

Altman's double study gave divergent outcomes: all results of the cross-sectional survey confirm the hypothesis with one exception: no higher levels of self-esteem were detected. On the contrary, all results of the longitudinal analysis including the comparison between experimental and control group, refute all hypotheses, excepting results for self-esteem, which appears to increase as had been predicted (See details in Appendix I).

Altman argues several reasons for these paradoxical results. Regarding the cross-sectional findings, he believes that self-esteem is not an aspect directly targeted by the NVC model. This fact, in addition to the particular wording of the self-esteem scale, may have produced these specific negative results in the cross-sectional study.

Regarding the negative results of the longitudinal analysis, Altman argues that even though participants enjoyed the training, the tests were unable to show the depth of self-realization achieved through training. This argument coincides with Bitschnau's (2008) stance, who points out that changes in behavior according the NVC approach happen very slowly and could not be noticed in the four moths' time in which the training occurred. This argument aligns with Rosenberg's perspective concerning the implacability of habits.

Another argument is that the impact of the training on volunteer participants might be diminished owing to their cultural or other psychological factors, which could contribute to a higher level of self-awareness and self-reflection than found among non-volunteers. Again, participants may have noticed changes in their learning through applying a number of techniques, but these factors do not show in the tests.

The positive results regarding the increase of self-esteem, or self-worth, may have a reason on the context of group work taking place in the training. Sociability, sense of belonging and empathic listening experienced over four months might have played a role in findings of increased self-esteem.

The main shortcoming to understanding these contradictory results is the lack of data on individual participants, their personal characteristics and cultural backgrounds. It is possible that some had prior knowledge or experience of NVC, and this may have had a significant impact on the results. The training was financed by the participants themselves, so a degree of positive motivation can be inferred.

In any case, Altman argues that such a small number of participants (10/10) do not allow for a generalization of the results or conclusive findings, before concluding that a more in-depth study of the NVC constructs -with a development of tailored measures- would be necessary to accurately measure the impact of NVC trainings.

Studies using random selection of participants plus a follow-up of the long term effects of training would be necessary to further clarify the questions that arose in the studies.

5.4.2. Blake

The Blake study produced the same results in both experimental and control groups. Several design factors may have contributed to this. First, the setting was a communication course. The intervention was a two hour workshop delivered by the same instructor who teaches the semester long communication course, and who was briefed and had read NVC materials. Furthermore, the intervention may be considered too short to have had any measurable impact in the context of a semester long communication course, and the deliverer of the intervention may not have been sufficiently prepared for this task.

In such a setting, it may have been more appropriate to implement a treatment- to -treatment design, with a stronger NVC intervention, and then to compare the communication course *versus* the NVC course. The results, therefore, might be shaped by an inappropriate design.

6.1 Answering the research question

What is the impact of the application of the NVC model on the development of empathy?

Ten out of thirteen studies tackled the subject of empathy, exclusively or tangentially. In general, all the studies included in the review presented a consistency on the theoretical model and its trainability. The studies provided details of the background and content of training, demonstrating a fidelity to the NVC processes and constructs. The training implemented was –with the exception of Blake, for which there was only a briefing and handouts- of the didactic-experiential type, also mixed with the skills -training type, in which the trainer provides trainees with a description of well-defined skills to be learned and demonstrates the effective use of these skills through modelling and providing practice opportunities to use these skills (Salas & Cannon-Bowers, 2001, in Lam *et al*., 2011, p.172).

After this common premise, the studies diversify in methods and outcomes sought and in the way they measure the outcomes. The fact that NVC is not a labelled type of program such as a 'violence prevention program 'or 'empathy training' allows for the model to be applied to a variety of settings for a range of purposes. This diversification has its strong points, as it makes NVC a versatile approach able to adapt to a wide range of settings. However, its weak point is that its versatility dilutes the power of its effectiveness in a myriad of different outcomes. The major shortcomings found in the studies were the small number of participants, and, by extension, lack of statistical power, as well as the lack of reporting. For this reason, the results must be considered with caution.

The results are consistent with previous research on empathy training that corroborates the relationship between empathy development and conflict resolution - pro-social behaviours (Batson& Ahmad, 2009).

However, seven studies not only provide information about what participants learned in an NVC training but also show how NVC tools were applied in their home or work environment, and examine the challenges encountered, filling a gap in general reporting noted by Lam *et al*.(2011) in their study of empathy trainings.

The majority of studies (10) focused on behavioural changes brought about through the knowledge gained in the trainings and the way this knowledge was applied in the participants' everyday lives.

6.1.1. Mismatch between training content and measurements

The main mismatch observed in the methodology was between the content delivered in the trainings and the measurements used to calculate the impact of the intervention on empathy development.

This major shortcoming was due to the use of validated measures that are not congruent with the NVC empathy construct, particularly in the specificity of its three components:

- cognitive: practicing how to infer and guess the feelings and needs of others, this involving a development of feelings and needs literacy;
- affective: getting in touch with the needs of connection and compassion that motivate us to adopt nonviolent strategies that could meet everybody's needs, developing specifically self-awareness of our own feelings and needs; and
- behavioural: actively using the verbal and nonverbal communication tools in our relationships with others in all kinds of situations to indicate an understanding of an emotional resonance with the other person;

Several researchers decided to create their own measures, which were consistent with the contents of the interventions and the objectives of the studies. Researchers who opted for validated measures, perhaps to increase the validity and reliability of their designs and results, had the contents of the model being only partly measured, or, as Lam *et al*. describe it: presenting "partial congruence because of omission" (2011, p.187).

The limitation of the validated measures chosen in the studies is that they emphasise emotional contagion or personal distress, both of which are alien concepts to NVC. Above all they measure empathy as a trait instead of as a trainable ability or skill. In NVC the basic emotional state in the empathic process is compassion. The items in IRI appear to identify sympathy with empathy, which is an important differentiation in NVC as has been explained in the introduction. Particularly, Rosenberg states that when we start feeling pain while hearing other person's pain, we can't empathize; our attention is too much taken by our own feelings: "With empathy, I'm fully *with* them, not full of them- that's sympathy" (Rosenberg, 2003c, p.12). This view is consistent with research suggesting that the direct effect of emotion matching is likely to inhibit empathic concern (Batson & Ahmad, 2009).

This mismatch is barely mentioned in the studies. Steckal and Blake discuss the verbal incongruencies of some items. The limitation of the measures may account for the fact that the majority of the studies (eight) have mixed-design designs. The qualitative studies allow deepening in subtleties that might compensate for the lack of accuracy of standard measures.

This handicap, which is common to other empathy trainings, is summarized by R.P. Butters as:

> "The psychometric assessment instruments used currently do not correspond to more recent theoretical models underscoring the multidimensionality of the construct, nor do they meet the theoretical and methodological imperative to account for the ways in which affect and cognition interact to give rise to empathic responses" (2010,p.47).

6.1.2. Self-reported vs. third party measurements

Butters and Stepien & Baernstein(2006) diverge in their judgments on self-reported measures versus third-party measures. Butters argues that self-reported measures always show lower scores in comparison with third-party measures. Therefore, positive results stemming from self-reported measures can be considered to bear more weight. However, Stepien & Baernstein believe that third-party measures are essential to assess the efficiency of empathic behaviours. It is not enough to believe or feel that we are more empathic, whether the patient's feelings have been correctly identified must be assessed.

The accuracy of empathy is not a primary concern in the NVC approach. What is considered crucial is the enquiring attitude of the person empathizing, independent of her accuracy. This is one of the reasons Rosenberg suggests always using questions when empathizing, so the person receiving empathy is asked to confirm or correct the other person's guesses. For Rosenberg these attempts promote a quality of receptivity of one person to the other, which is at the heart of NVC inspired interactions.

However, to assess whether the NVC empathic process is effectively empathic, third-person measurements are necessary. Cossetti, Savic, and in lesser measure, Branscomb, have begun this line of investigation with promising results. None of those researchers, though, applied validated third-party measures in their studies.

6.1.3. Sub-processes and motivational factors: theoretical considerations.

Butters states that empathy trainings do not focus on motivational factors of empathy. Indeed, this is a very important component especially in conflict resolution contexts. NVC does not speculate a great deal about what motivates us to be empathic, but rather about what prevents us to be so, as it takes for granted that to respond empathically would be our natural impulse, notwithstanding our cultural conditioning.

Savic (1996) investigated the factors that may prevent teachers to empathically attune to their pupils, and found three main reasons:

1. The image that the teacher has of the child (labeling, categorizing).
2. The image that teachers have about themselves as educators. Their identification with their role as a teacher, resulting in being emotionally affected by 'refusals', and blaming themselves for it.
3. The image of the educative objective, future goal. This was evident especially in situations when the children were doing something in conflict with teacher's values and prescribed educative objectives.

NVC also diverges from a central assumption found in most training programs, i.e. "empathizing with another person creates a shared emotional experience and this common ground is the basis for building trust and affiliation" (Butters, 2010, p.3).

NVC stands on shared universal needs, not feelings. The empathic attitude proposed by NVC may include feelings of concern or of a pro-social nature. However, these are not required to be of the same type as the ones of the person with whom we try to empathize. The purpose of the whole process is to create a feeling of connection between the two persons.

This empathic attitude is consistent with the definition of 'empathic concern' given by Batson & Ahmad (2009) based on *congruence* of emotional response, "positive when the perceived welfare of the other is positive (empathic joy), negative when the perceived welfare of the other is negative (empathic concern)" (p.146). Batson & Ahmad emphasize:

> "To speak of congruence does not imply that the content of the emotion is the same or even similar, as in emotion matching (…). Empathic concern -that is, feeling sympathy, compassion, tenderness, and the like- has been claimed to produce altruistic motivation to have the empathy-inducing need removed (Batson, 1991)." (p.146).

Hence, some ground is shared with the underlying ethics of NVC of having everybody's needs met through natural giving (Rosenberg, 2003a).

By examining the sequence of the model, we see that NVC does not require experiencing feelings of 'warmth' in order to apply the techniques. In principle, implementing the model is a volitional act, in spite of antagonistic feelings we could be experiencing in any moment. I interpret this as purposeful factor that gives NVC a particular efficiency in conflict resolution situations. As pointed out by Batson & Ahmad and Abu-Nimer (2000) among others, in conflict situations it is very difficult for one party to try to connect empathically with the other. The NVC perspective could add: especially *if* we need to *feel* positive about the other *first*.

The NVC process first requires making an effort to suspend judgments, which is a volitional conscious decision, then to imagine others' feelings and needs, which is another cognitive step. By then, according to Rosenberg, the chances of an evolution in the emotional sphere have increased (2003a and c).

Regarding the empathic sub-processes, Lam *et al.* (2011) believe that the affective component acts first, although they admit there is no consensus about this order among the different empathy training approaches.

Rosenberg's sequence is consistent with research (Batson, 1991; Davis, 1994) in which guidelines to imagine how other persons are thinking and feeling have often been used to induce empathic concern. Batson & Ahmad (2009) argue that:

> "('Imagine-self perspective', 'imagine-other perspective' and 'emotion matching') may lead to empathic concern, but empathic concern does not seem to produce any of the other three, at least not directly. It may, however, indirectly lead to adoption of an imagine-other perspective because empathic concern has been found to increase valuing of other's welfare (Batson *et al.*, 1995), which has in turn been found to prompt adoption of an imagine-other perspective toward that person (Batson *et al.*,2007)." (p.147).

These conclusions resonate with Rosenberg's belief in the human natural empathic concern for another's welfare, and the power of the NVC language to facilitate natural giving.

Empathic concern is not a term used by Rosenberg. Instead he refers to our need for other's well-being as a motivational factor.

He understands that it is very difficult to try to empathize with somebody when we are overwhelmed by intense feelings. In these situations Rosenberg suggests the inner process of self-empathy, which might be able to transform our emotional state towards a position in which we can put our attention on to the other person (2003a).

In addition to Steckal and Altman, three other studies (Branscomb, 2011; Little *et al.*, 2007; and Little, 2008) investigated the subject of self-empathy without using the Steckal measure.

Butters thinks that another shortcoming found in empathy trainings is the excess of discourse development with a consequent lack of practice-based guidance to develop empathy.

To this extent, with the exception of Beard *et al.*, Steckal and Altman, all the other studies included in this review have endeavoured to understand the effectiveness of the training by examining the degree to which "findings from the studies (…) reflect transfer of learning from training to situations in which empathy is required". (Lam *et al.*, 2011, p.190).

Another interesting dimension of empathy consists in empathizing with another person's positive feelings. According to Butters (2010), this aspect belongs to a holistic empathic expression that has been largely neglected in the empathy training literature. Little's (2008) study highlights participants' accounts of the empathic responses to another's positive emotions as a valued insight promoted by the NVC model.

6.1.4. Moderator variables

Due to the small number of studies and their heterogeneity it is difficult to measure possible moderators to the effect size. It has already been mentioned that age could be a moderator in the stage of transference of knowledge to everyday life situations (Little *et al.*, 2007) .This hypothesis is consistent with previous research (Steibe *et al.*, 1979).

Butters (2010) states logically that voluntary status needs to be assessed as a moderator. Due to the fact that the majority of studies use voluntary recruitment, this variable could not be measured as a moderator.

Future research, with random designs, might be able to bring more light on this variable.

 Another variable susceptible to bearing significant weight as a moderator is the person who delivers the training being or not a certified trainer. Blake's neutral findings may indicate such a possibility. When the researcher is also the certified trainer delivering the intervention, this variable should be investigated as a possible 'therapist effect'.

Understanding the lowest dosage threshold necessary to see a significant change in empathy is also required, though previous research (Butters, 2010) does not find this variable to be a relevant moderator.

With the exception of the lack or unclear definition of empathy, this review has encountered similar shortcomings that other reviews such as Stepien & Baernstein , Butters and Lam *et al*. The studies included here suffer from common flaws encountered in social research such as low number and non-random selection of participants and lack of reporting. In spite of the flaws, a number of studies reported relevant insights concerning long-term effects and impact on real -life situations.

6.2   Limitations of the review

The small number and uncertain quality of studies included within the wide purpose and scope of the review will have undermined the chances for a deep analysis of the different issues and possible subgroups (Booth *et al.*, 2012). A narrative review, even bearing in mind its lack of precision, was chosen owing to the diversity and heterogeneity of the variables that needed to be accounted for.

The main limitation of the review, though, could be called 'availability bias'. Efforts have been made to prevent publication and language bias, but many experiences with NVC going on in the world could not be reported here, whether this was for a lack of reporting, or because the same reports were not made available to me. To my understanding, the body of research gathered in this review represents the tip of the iceberg of NVC's impact in the world. The absence in this study of numerous NVC experiences impairs the 'representativity' of this review.

I must mention the inevitable subjectivity bias present throughout the whole review. In spite of the efforts made towards 'disciplined subjectivity' (Booth *et al*., 2012), my decisions show a degree of uncertainty and inaccuracy born via the tension between the weak evidence of the studies and my own convictions about the NVC model. I have endevoured to provide enough information so the reader can make his or her own judgments about the various issues.

6.3   Recommendations

In light of the apparent positive impacts and potential effectiveness of NVC in a wide range of outcomes, and specifically in terms of empathy development, it is highly recommended that studies are expanded by the use of better, more detailed and accurate reporting and stronger methods and designs. Without these, the possible positive results will never be able to break through into the realm of 'evidence based' disciplines.

Because the majority of research interest on NVC arises from particular, individual sources, I would recommend future individual researchers to concentrate on significant, groundbreaking, ongoing NVC experiences. The projects lead by D. Rienman (2007, 2009) in psychiatric settings, or the Freedom Project in the U.S. and Canada, for example, would merit

observational studies, and the NVC projects lead by I.N. Savic in Serbia for 15 years would deserve a retrospective cohort study.

Finally, there is a clear need for new measures, especially in the field of empathy development and training. Butters (2010) states that in spite of the great upsurge in the number of studies investigating the construct of empathy, increasingly sophisticated, "the basic approach for measuring empathy in the social sciences has changed little since the 1980s"(p.48).

Two new measures have been reported in this review, which represent courageous pioneering efforts towards the demonstration of the NVC model in its own specificity. These instruments are indispensable tools for future research. Their reutilization, continual testing and further validation are strongly recommended tasks for future researchers in the field.

7. CONCLUSION

Research shows that NVC potentially fosters empathy, in spite of the shortcomings present in the studies such as small number of participants and inadequate measures, also found in other systematic reviews (Stepien & Baernstein, 2006; Lam *et al*., 2011). The NVC approach offers the advantage of a well-defined and standardized set of constructs and processes that are taught in a dynamically structured training. As noted in previous reviews on empathy training (Stepien & Baernstein, 2006; Lam *et a*l., 2011; and Butters, 2010), the multidimensionality of empathy makes it difficult to measure, and the peculiarity of the NVC constructs makes this difficulty still more acute.

The studies included in this review show positive results on a variety of interrelated outcomes with a pre-eminence of empathy development. The relationship between the different psychological aspects and personal skills affected by the NVC model is yet to be investigated. What becomes salient in this review is an intimate interrelation among empathy enhancement, conflict resolution skills, communication skills and relationships improvement, which is consistent with previous research on empathy and pro-social behaviour mentioned in the introduction.

More robustly designed studies and a larger number of participants would be needed to confirm those findings and to validate the effectiveness of the specifics of the NVC model, especially in real life situations. For this purpose, further validation of tailored instruments, updated to reflect the evolution of the empathy construct with its various sub-processes, would be essential. I agree with Butter's and Stepien & Baernstein's opinion that further investigation needs to be carried out on the motivational and moral aspects of the empathic process.

8. REFERENCES

Abu-Nimer, M. (2000). Peace Building in Post settlement: Challenges for Israeli and Palestinian Peace Educators. *Peace and Conflict. Journal of Peace Psychology.* 6(1):1-21.

Altman, T. (2010). Evaluation der Gewaltfreien Kommunikation in Quer-und Längsschnittdaten. Unpublished dissertation. University of Leipzig. Institut für Psychologie II. Retrieved from: http://www.gewaltfrei-dach.eu/wissensch/altmann-tobias_2010.pdf [Last accessed the 8th of October of 2013].

Aspy, D.N. & Roebuck, F.N. (1977). *Kids don't learn from people they don't like*. Amherst, MA. Human Resource Development Press.

Barnett-Page, E. & Thomas, J. (2009).Methods for the Synthesis of Qualitative Research: A Critical Review. *BMC Medical Research Methodology.* 9: 59.

Barrett-Lennard, G.T. (1981). The Empathy Cycle: Refinement of a Nuclear Concept. *Journal of Counseling Psychology,* 28(2): 91-100*.*

Batson, C.D. (1991). *The altruism question: Toward a social- psychological answer*. Hillsdale, NJ. Erlbaum Associates.

Batson, C.D. (2009): These Things Called Empathy: Eight Related but Distinct Phenomena*,* in Decety, J. & Ickes, W. eds (2009). *The Social Neuroscience of Empathy*. Cambridge, Massachussetts; London, England. The MIT Press.

Batson, C.D., Turk, C.L., Shaw, L.L. & Klein, T.R. (1995). Information function on empathic emotion: learning that we value the other's welfare. *Journal of Personality and social Psychology.* 68(2): 300-313*.*

Batson, C. D., Polycarpou, M.P., Harmon-Jones, F., Imhoff, H.J., Mitchener, F.C., Bednar, L.L., Klein, T.R., & Highberger, L. (1997). Empathy and attitudes: Can feeling for a member of a stigmatized group improve feelings toward the group? *Journal of Personality and Social Psychology.* 72: 105-118.

Batson, C.D., Chang, J., Orr, R. & Rowland, J. (2002). Empathy, Attitudes, and Action: Can Feelings for a Member of a Stigmatized Group Motivate One to Help the Group? *Personality and Social Psychology Bulletin.* 28: 1656.

Batson, C.D., Eklund, J.H., Chermok, V.L., Hoyt, J.L. & Ortiz, B.G. (2007). An additional antecedent of empathic concern: Valuing the welfare of the person in need. *Journal of Personality and Social Psychology.* 93: 65-74.

Batson, C.D. & Ahmad, N.Y. (2009). Using Empathy to Improve Intergroup Attitudes and Relations. *Social Issues and Policy Review, Vol. 3, No. 1, 2009, pp. 141—177.*

Beard, J & English, E. (2008). A new communication course for junior doctors. Life at Work Ltd. United Kingdom. Retrieved from:

http://www.lifeatwork.co.uk/docs/Article_Junior_Doctors.pdf [Last accessed the 8th of October of 2013].

Beard, J., Beard, D. & English, E. (2009). A new communication course for Junior Doctors. *Medical Education*. 43: 496-7.

Bitschnau, K.I. (2008). *Die Sprache der Giraffen*. Paderborn: Junfermann

Black, H. & Phillips, S. (1982). An Intervention program for the development of empathy in student teachers. *The Journal of Psychology.* 112:159-168.

Blake, S. M. (2002). A step toward violence prevention: Non-violent communication as part of a college curriculum. Unpublished Master thesis. Florida Atlantic University. Arts and Letters. US. Retrieved from: http://www.cnvc.org/sites/cnvc.org/files/NVC_Research_Files/Training%20Assessments/Blake2002-MAThesis.pdf [Last accessed the 8th of October of 2013].

Bohart, A. (2001). Emphasising the Future in empathy Responses, in S. Haugh & T. Merry (Eds.) *Empathy.* Ross-on-Wye. PCCS Books.

Booth, A., Papaioannou, D., Sutton, A. (2012). *Systematic Approaches to a Successful Literature Review*. London. Sage.

Bozarth, J.D. (2001). Beyond Reflection: emergent modes of Empathy, in S. Haugh & T. Merry (Eds.) *Empathy.* Ross-on-Wye. PCCS Books.

Branscomb, J. (2011). Summative Evaluation of a Workshop in Collaborative Communication. Unpublished Thesis. Master of Public Health. Rollins School of Public Health of Emory University. US. Retrieved from: http://www.cnvc.org/sites/cnvc.org/files/NVC_Research_Files/NVC%20Research/branscomb_dissertation.pdf [Last accessed the 8th of October of 2013].

Brodley, B.T. (1997a). The Nondirective attitude in Client-Centered Therapy. *The Person-Centered Journal*, 4 (1):18-30.

Brodley, B.T. (1997b). Criteria for making empathic responses in Client-Centered Therapy. *The Person-Centered Journal,* 5(1):20-8.

Brodley, B.T. (2001). Observations of Empathic Understanding in a Client-Centered Practice, in S. Haugh & T. Merry (Eds.) *Empathy.* Ross-on-Wye. PCCS Books.

Burleson, M.; Martin, M. & Lewis, R. (2012). Assessing the impact of Nonviolent Communication. NVC Outcome Evaluation Report. Sacred Space Inc. US. Retrieved from: http://www.cnvc.org/sites/cnvc.org/files/NVC_Research_Files/EVAL-2011-Final.pdf [Last accessed the 8th of October of 2013].

Butters, R.P. (2010). A Meta-analysis for Empathy Training Programs for Client Populations. Unpublished PhD Thesis. University of Utah. College of Social Work.

Carkhuff, R. & Berenson, B.G. (1967/1977). *Beyond counseling and psychology*. New York. Holt. Rinehart & Winston.

Carkhuff, R.R. & Berenson, B.G. (2000). *The Possibilities Organization. The New Science of Possibilities Management*. Amherst. Possibilities Publishing.

Carkhuff, R.R. (1969a). *Helping and human relations.Vol. I: Selection and training*. New York. Holt, Rinehart & Winston.

Carkhuff, R.R. (1969b). Helper communication as a function of helpee affect and content. *Journal of Counseling Psychology.* 16(2): 126-131.

Carkhuff, R.R. (1969c). The perception of the effects of teacher-counselor education: The development of communication and discrimination selection Indexes. *Counselor Education and Supervision.* 8: 265-272.

Carlisle, N. (2012). Why empathy? Activating Empathy: Transforming Schools To Teach What Matters. *Changemakers* [online}. Availble from: http://www.changemakers.com/empathy [Last accessed 22 of October 2012].

Carroll, C., Booth, A. and Lloyd-Jones, M. (2012). *Qualitative Health Research.* 22: 1425.

Casey, C. & Roark, A.E. (1980). Outcome of Systematic Human Relations Training with Junior high School Students. *Education.* 101(1):68-74.

Cedar B. & Levant R.F.(1990): A meta-analysis of the effects of parent effectiveness training. *The American Journal of Family Therapy*. 18(4): 373-384.

Conflict Resolution Network (2012). Conflict Resolution Kit [online]. Available from: http://www.crnhq.org/pages.php?pID#skill_3. [Last accessed the 30thof October 2012].

Cossetti, V. (1999).Nonviolent communication: Experimental Project in Primary Schools. Unpublished Researcher Report. Italy. Retrieved from: http://www.cnvc.org/sites/cnvc.org/files/NVC_Research_Files/Vilma_Costetti_Nonviolent_Communication_Experimental_Project_in_Primary_Schools.pdf [Last accessed the 8th of October of 2013].

Cox, E. & Dannahy, P. (2005). The value of openness in e-relationships: using Nonviolent Communication to guide online coaching and mentoring. *International Journal of Evidence Based Coaching and Mentoring.* 3(1):39-51.

Davis, M.H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology.* 10:85.

Davis, M.H. (1994). *Empathy: a social psychological approach*. Madison, WI. Brown & Benchmark.

Decety, J. & Jackson, P.L. (2004). The functional architecture of human empathy. *Behavioral and Cognitive Neuroscience Reviews.* 3(2): 71-100.

Decety, J. & Lamm, C. (2009). Empathy versus Personal Distress: Recent Evidence from social Neuroscience. In J. Decety & W. Ickes (Eds.), *The Social Neuroscience of Empathy.* Massachussets. The MITPress.

De Wied, M., Branje, S.J.T. & Meeus, W.H.J. (2007). Empathy and conflict Resolution in Friendship Relations Among Adolescents. *Aggressive Behavior*, 33: 48-55.

Dixon-Woods, M., Shaw, R., Agarwal, S. & Smith, J. (2004). The problem of appraising qualitative research. *Quality and Safety in Health Care*. 13: 223-225.

Dixon-Woods, M., Cavers, D., Agarwal, Sh., Annandale, L., Arthur, A., Harvey, J., Hsu, R., Katbamna, S., Olsen, R., Smith, L. Riley, R. and Sutton, A.J.(2006). Conducting a critical interpretative synthesis of the literature of access to healthcare by vulnerable groups. *BMC Medical Research Methodology*. 6:35.

Dixon-Woods, M., Sutton, A., Shaw, R., Miller, T., Smith, J., Young, B.,......& Jones, D. (2007). Appraising qualitative research for inclusion in systematic reviews: A quantitative and qualitative comparison of three methods. *Journal of Health Services Research and Policy.* 12: 42-47.

Elliot, R., Bohart, A.C., Watson, J.C. & Greenberg, L. (2011). Empathy. *Psychotherapy.* 48(1):43-49.

Eisenberg, N. et al (2002). Prosocial Behavior in Early Adulthood: A Longitudinal Study. *Journal of Personality and Social psychology*, 82 (6):993-1006.

Eisenberg, N. & Miller, P.A. (1987). The Relation of Empathy to Prosocial and Related Behaviors. *Psychological Bulletin*, 101(1): 91-119. OUT

Farrington, D. P., Ttofi, M. M (2009). School-Based Programs to Reduce Bullying and Victimization. Campbell Systematic Reviews 2009:6. 10.4073/csr.2009.6

Ferguson, M., Carlson, D., Zivnuska, S. and Whitten, D. (2010). Is it better to receive than to give? Empathy in the conflict-distress relationship. *Journal of Occupational Health Psychology*. 15(3):304-315

Feshbach, N.D. & Feshbach, S. (2009). Empathy and Education. In Decety, J. & Ickes, W. (Eds.). The Social Neuroscience of Empathy. Cambridge, Massachussetts; London, England. The MIT Press.

Frei, D. (1985). Empathy in conflict management. *International Journal.* XL, Autumn: 586-598.

Gazda, G., Asbury, F., Balzer, F., Childers, W., Desselle, R., & Walters, R. (1977). *Human relations development: A manual for educators* (2nd ed.). Boston. Allyn & Bacon, Inc.

Gerdes, K.E. et al (20120). Conceptualizing and Measuring Empathy. *British Journal of Social Work,* 40:2326-2343.

Greenberg, L. & Elliot, R. (1997). Varieties of Empathic Responding. In Bohart, A. & Greenberg, L. (Eds.). *Empathy Reconsidered: New directions In Psychotherapy*. Washington DC. American Psychology Association, pp.167-86.

Gordon, T. (1973). *T.E.T. Teacher Effectiveness Training*. New York. Peter H. Wyden.

Gordon, T. (2013).Origins of the Gordon Model [online]. The Gordon Training. Available from: http://www.gordontraining.com/thomas-gordon/origins-of-the-gordon-model/ [Last accessed 21st of May, 2013].

 Haavelsrud, M. & Stenberg, O. (2012): Analyzing peace pedagogies. *Journal of Peace Education*. 9:1, 65-80.

Hackney, H. (1978). The Evolution of Empathy. *Personnel and Guidance Journal.* 35-38.

Hannes, K.(2011). Chapter 4: Critical Appraisal of qualitative research. In: Noyes, J; Booth , A; Hannes, K; Harden , A; Harris, J; Lewin , S & Lockwood, C. (eds), *Supplementary Guidance for Inclusion of qualitative Research in Cochrane Systematic Reviews of Interventions*. Version1 (updated August 2011). Cochrane Collaboration Qualitative Methods Group, 2011. Available from URL
http://cqrmg.cochrane.org/supplemental-handbook-guidance. [Last accessed 20th of September of 2013]

Hart, S. (4th of February 2009). Sura Hart's reflexions on NVC in School Projects. [Online]. Available from: http://www.cnvc.org/about-us/projects/nvc-schools/sura-hart039s-reflections-nvc-schools-projects/sura-hart039s-reflections-nvc-schools-projects. [Last accessed 8th of March of 2013].

Higgins, E., Moracco, J. & Danford, D. (1981). Effects on Human Relation Training on Education Students. *The Journal of Educational Research.* 75(1): 22-25.

Hoffman, M.L. (1982). Developmental prosocial motivation: Empathy and guilt. In N. Esenberg (Ed.). *The Development of Prosocial Behavior*, (pp.218-231). New York. Academic Press.

Hoffman, M.L. (1983). Affective and cognitive processes in moral internalization. In E. T. Higgins, D.N. Ruble, & W.W. Hartup (Eds.). *Social Cognition and social Development: A Socio-Cultural Perspective* (pp. 236-274). Cambridge. Cambridge University Press.

Ickes, W. & Simpson, J.A. (1997). Managing empathic accuracy in close relationships. In W. Ickes (Ed.). *Empathic accuracy* (pp.218-250). New York. Guildford Press.

Ickes, W. & Simpson, J.A. (2001). Motivational aspects of empathic accuracy. In G.J.O. Fletcher & M. Clark (Eds*). The Blackwell Handbook of social psychology: Interpersonal processes* (pp.229-249). Oxford, England. Blackwell Publishers.

Ickes, W. (2009). Empathic accuracy: Its Links to Clinical, Cognitive, Developmental, Social, and Physiological Psychology. In : Decety, J. & Ickes, W. eds (2009). *The Social Neuroscience of Empathy*. Cambridge, Massachussetts; London, England. The MIT Press.

Infante, D. A., & Wigley, C. J., III. (1986). Verbal aggressiveness: An interpersonal model and measure. *Communication Monographs*. 53, 61-69.

Kashtan, M. (2012). Basic Pitfalls of using NVC. [Online].The Fearless Heart. Available from http://baynvc.blogspot.pt/2012/06/basic-pitfalls-of-using-nvc.html. [Last accessed: the 26th of September of 2012].

Kaukiainen, A., Bjorkqvist, K., Lagerspetz, K., Osterman, K., Salmiralli, C., Rotheberg, S. and Ahlborn, A. (1999). The relationships between social intelligence, empathy and three types of Aggression. *Aggressive Behavior*. 25: 81-89.

Kirkpatrick, D.L. (1994). *Evaluating Training Programs: The Four Levels*. San Francisco, Ca. Berrett-Koehler.

Kmet, L.M., Lee, R.C., Cook, L.S. (2004). *Standard Assessment Quality Criteria for Evaluating Primary Research Papers from a Variety of Fields*. Edmonton, Alberta. Alberta Heritage Foundation for Medical Research.

Lam, T.C.M., Kolomitro, K. & Alamparambil, F.C. (2011). Empathy Training: Methods, Evaluation, Practices, and Validity. *Journal of Multidisciplinary Evaluation.* 7 (16): 162-200.

Levenson, H. 1974. Differentiating among internality, powerful others, and chance. In H.M. Lefcourt (Ed.). *Research with locus of control constructs* (pp. 15-63). New York: Academic Press.

Little, M.; Gill, R. & Devcic, C. (2007).The Compassionate Classroom: assessing the impacts of Non-violent communication. Unpublished report. Canada. Retrieved from: http://teresarosecoaching.com/wp-content/uploads/2010/05/CompassionateClass07_BriefA.pdf [Last accessed the 8th of October of 2013].

Little, M. (2008). Total Honesty/ Total Heart: Fostering empathy development and conflict resolution skills. A violence prevention strategy. Unpublished Thesis. Master of Arts in Dispute Resolution. University of Victoria. Canada. Retrieved from: http://www.cnvc.org/sites/cnvc.org/files/MLittle_Thesis0408.pdf [Last accessed the 8th of October of 2013].

Marlow, E.; Nyamathi, A.; Grajeda, W.; Bailey, N., Weber, A. & Younger, J. (2012): Nonviolent Communication Training and Empathy in Male Parolees. *Journal of Correctional Health Care*. 18(1):8-19.

Maslow, A. H.(1943). A theory of human motivation. *Psychological Review, 50*(4), 370–96. Retrieved from http://psychclassics.yorku.ca/Maslow/motivation.htm [Last accessed the 7th of July of 2013].

Mauthner, N.S. & Doucet, A.(2003). Reflexive Accounts and Accounts of Reflexivity in Qualitative Data Analysis. *Sociology.*37(3): 413-431.

Mays, N. & Pope,C. (1995). Qualitative research: Rigor and qualitative research. *British Medical journal.* 311: 109-112.

Mehrabian, A. & Epstein, N. (1972). A measure of emotional empathy. *Journal of Personality.* 40: 525-676*.*

Mehrabian, A. , Young, A.L., & Sato, S. (1988). Emotional empathy and associated individual differences. *Current Psychology: Research and Reviews.* 7: 221-240.

Mehrabian, A. 1996. *Manual for the Balanced Emotional Empathy Scale (BEES)*.Unpublished data.

Mercer, S.W., Maxwell, M., Heaney, D. & Watt, G.C.M. (2004). The consultation and relational empathy (CARE) measure: development and preliminary validation and reliability of an empathy-based consultation process measure. *Family Practice*. 21(6): 699-705.

Miller, P.A. & Eisenberg, N (1988). The Relationship of Empathy to Aggressive and Externalizing /Antisocial Behavior. *Psychological Bulletin*. 103(3): 324-344.

Miller, W.R., Hendrich, K.E. & Orlofsky, D.R. (1991). The Helpful Responses Questionnaire: A procedure for measuring therapeutic empathy. *Journal of Clinical Psychology.* 47 (3): 444-448.

Nadler, A. & Liviatan, L. (2006). Intergroup Reconciliation: Effects of Adversary's Expressions of Empathy, Responsability and Recipients of Trust. Personality and social Psychology Bulletin. 32:459.

Nash, A.L. (2007). Case Study of Tekoa Instittute: Illustration of Nonviolent Communication Training´s Effect on Conflict Resolution. Unpublished Master Thesis. Master of Science in Sociology. Virginia Polytechnic Institute and State University. US. Retrieved from: http://www.cnvc.org/sites/cnvc.org/files/NVC_Research_Files/NVC%20Research/Nash_Tekoa_Institute_NVC_Conflict_Resolution.pdf [Last accessed the 8th of October of 2013].

Oboth, M. (2007). Inspiration und Herausforderung. *Spektrum der Mediation.* 28: 9-14.

Paulus, C. (2009). Saarbrücker Persönlichkeitsfragebogen zu Empathie (SPF): Fragebogen [Online] Available at: http://virtual-teacher.ezw.unisaarland.de/Jacobs/tests/empathie/empathie_online.html. [Last accessed the 20th of November, 2009].

Pawson, R.(2006). *Evidence-based Policy: A Realist Perspective*. London. Sage.

Reeves, B.C., Deeks, J.J., Higgins, J.P.T.and Wells, G.A.(2008). Chapter 13: Including Non-randomized studies. In: Higgins, J.P.T. & Green, S. (eds.). *Cochrane Handbook For Systematic Reviews of Interventions.* Version 5.0.1 (Updated September 2008).The Cochrane Collaboration 2008. Available from www.cochrane-handbook.org. [Last accessed the 10th of September of 2013].

Riemer, D.(2007).Application of Core Strategies: Reducing Seclusion & Restraint Use. On The Edge. 13(3):7-10.

Riemer, D. (2009).Creating Sanctuary: Reducing Violence in a Maximum Security forensic Psychiatric Hospital Unit. On the Edge, Spring 2009.

Riggio, R.E., Tucker, J.S., & Coffaro, D. (1989). Social skills and empathy. *Personality and Individual Differences*. 10: 93-99.

Rogers, C. R. (1942*). Counseling and psychotherapy*. Boston: Houghton-Mifflin.

Rogers, C.R. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of consulting Psychology*. 21 (2), 95-103.

Rogers, C.R. (1959). A theory of therapy and interpersonal relationships as developed in the client-centered framework. In J.S. Koch (Ed.). *Psychology: A study of a science, Volume 3: Formulations of the person in the social context* (pp. 184-256). New York. McGraw-Hill.

Rogers, C.R. (1970). *Carl Rogers on Encounter Groups*. New York: Harper and Row.

Rogers, C.R. (1975). Empathic: An unappreciated way of being. *The Counseling Psychologist*, 5(2), 2-10. Reprinted in C.R. Rogers (1980) *A Way of Being*. Boston: Houghton-Mifflin.

Rogers, C.R. (1980). Empathy: An Unappreciated Way Of Being. In *A Way Of Being*(pp.137-63).Boston. Houghton Mifflin.

Rohr, E. (2012). Challenging Empathy: Experiences as a Group Analytic Supervisor in a Post-Conflict Society. *Clinical Social Work Journal*. 40(4):450-456.

Rosenberg, Morris. (1965). *Society and the adolescent self-image*. Princeton.Princeton University Press.

Rosenberg, Marshall B. 1983. *A Model for Nonviolent Communication.* Pennsylvania: New Society Publishers.

Rosenberg, Marshall B. (2003a). *Nonviolent communication: A language of Life*. Encinitas. Puddledancer Press.

Rosenberg, Marshall B. (2003b). *We Can Work It Out. Resolving Conflicts Peacefully and Powerfully*. Encinitas. Puddledancer Press.

Rosenberg, Marshall B.(2003c). *Getting Past The Pain Between Us. Healing and Reconciliation without Compromise*. Encinitas. Puddledancer Press.

Salas, E. & Cannon-Bowers, J.A. (2001). The science of training: A decade of progress. *Annual Review of Psychology*. 52: 471-499.

Savic, N. Ingjatovic (1996). Mutual Education: Giraffe Language in Kindergarten and Schools. The report on the realization of the Project: October 1995-June 1996. Institute of Psychology at the Faculty of Philosophy in Belgrade University. Unicef, Education for Development. Retrieved from: http://www.cnvc.org/sites/cnvc.org/files/NVC_Research_Files/NVC%20in%20Schools/MUTUAL_EDUCATION_GIRAFFE_LANGUAGE_IN_KINDERGARTENS_SCHOOLS_Yugoslavia.pdf [Last accessed the 8th of October of 2013].

Schmid, P.F. (2001). Comprehension: The art of knowing. Dialogical and Ethical Perspectives on empathy As Dialogue in Personal and Person-Centered Relationships, in S. Haugh& T. Merry, *Empathy.* Ross-on-Wye. PCCS Books.

Shamay-Tsoory, S.G. (2009). Empathic Processing: Its cognitive and Affective Dimensions and Nueroanatomical Basis. In Decety, J. & Ickes, W. (Eds.). The Social Neuroscience of Empathy. Cambridge, Massachussetts; London, England. The MIT Press.

Simpson, J.A., Ickes, W. & Blackstone, T. (1995). When the head protects the heart: empathic accuracy in dating relationships. *Journal of Personality and Social Psychology.* 69, 629-641.

Simpson, J.A., Ickes, W. & Grich, J. (1999). When accuracy hurts: Reactions of anxious-uncertain individuals to a relationship-threatening situation. *Journal of Personality and Social Psychology.* 76, 754-769.

Simpson, J.A., Ickes, W. & Orina* M. (2001). Empathic accuracy and preemptive relationship maintenance. In J. Harvey & A. Wenzel (Eds.). *Close romantic relationships: maintenance and enhancement* (pp. 27-46). Mahwah, NJ. Erlbaum.

Simpson, J.A., Ickes, W. & Orina, M. (2003). When accuracy hurts and when it helps: A test of the empathic accuracy model in marital interactions. *Journal of Personality and social Psychology.* 85 (5): 881-893.

Steckal, D.(1994). Compassionate communication training and levels of participant empathy and self-compassion. Unpublished Thesis. PhD in Psychology. United States International University. US. Retrieved from: http://www.cnvc.org/sites/cnvc.org/files/NVC_Research_Files/NVC%20and%20Empathy/DSteckal1995-PhDDissertation.pdf [Last accessed the 8th of October of 2013].

Steibe, S., Boulet, D. & Lee, D. (1979). Trainee trait empathy, age, trainer functioning, client age and training time as discriminators of successful empathy training. *Canadian Counselors.* 14(1): 41-46.

Stepien, K.A. & Baernstein,A. (2006). Educating for Empathy. *Journal of General Internal Medecine.* 21: 524:530.

Stiff, J.B., Dillard, J.P., Somera, L., Kim, H., & Sleight, C. (1988).Empathy, communication and pro-social behavior. *Communication Monographs.* 55 (2):198-213.

Stone, V.E. (2006).Theory of mind and the evolution of social intelligence. In J.T. Cacioppo, P.S. Visser, & C.L. Pickett (Eds.), Social neuroscience: People thinking about thinking people (pp. 103-129). Cambridge, MA. MIT Press.

Stone, V.E. & Gerans, P. (2006). What's domain specific about theory of mind? *Social Neurosicence,* 1(3-4): 309-319.

Strahan, R. & Grebasi, K. 1972. Short, homogenous versions of the Marlow-Crowe Social Desirability Scale. *Journal of Clinical Psychology.* 28: 191-193.

Thomas, J. & Harden, A. (2008). Methods for the Thematic Synthesis of Qualitative Research in systematic reviews. *BMC Medical Research Methodology.* 8: 45.

Tolan P, Henry D, Schoeny M, Bass A.(2008). Mentoring interventions to affect juvenile delinquency and associated problems. Campbell Systematic Reviews 2008:16. DOI: 10.4073/csr.2008.16.

Truax, C.B. (1967). A scale for the measurement of accurate empathy. In C. Rogers, E. Gedlin, D. Kiesler & C.B. Truax (Eds.). *The therapeutic relationships and its impacts. A study of psychotherapy with schizophrenics.* (pp.398-402). Madison. University of Wisconsin Press.

Wilczynski, J. (2004): Teaching Client-Centered Therapy: A Pilot Analysis of Empathic Responses of clinical Psychology Graduate Students. *The Person Centered Journal*. 11 (1-2): 2-19.

Wood, C. (2003). How we talk to our children: An evaluation of Parent Effectiveness Training for emotional competence. University of Tasmania: Unpublished doctoral study.

Wood, C. & Davidson, J. (1987). P.E.T. An Outcome Study. *Australian Journal of Sex, Marriage and Family.*8: 131-141.

Wood, C. & Davidson, J. (1993). Conflict Resolution in the Family: A P.E.T. Evaluation Study. *Australian Psychologist*. 28, No. 2, 1993, pp. 100-104.

Wood, C. & Davidson, J. (1994-95).Parenting for peace seven years on. *Peace Psychology Review.* 1(2): 123-129.

Wood, C. & Davidson, J. A. (2000). The way we talk to our children. PET the Australian style. *Australian Journal of Pscyhology.* 52 (Suppl.): 122.

Wood, C. & Davidson, J.A. (2001). Less stress and more success. PET for Australian parents. *Australian Journal of Psychology.* 53 (Suppl.): 182.

Wood, C. & Davidson, J.A. (2002a). Emotional skills and stress: Parents' stress reduction following PET training in empathic listening, non-antagonistic assertiveness and family conflict resolution. (Abstract). *Australian Journal of Psychology.* 54 (Suppl.): 64.

Wood, C. & Davidson, J.A. (2002b). Qualitative issues in parent-child relationships identified in parent Effectiveness Training. In K.A. Moore (Ed.). *Proceedings of the 2nd Australasian Psychology of Relationships Conference: Relationships: At home and abroad* (pp.36-48). Melbourne. Australian Psychological Society.

Wood, C. & Davidson, J.A. (2003). Helping families cope: A fresh look at Parent Effectiveness Training. *Family Matter.* 65:28-33.

Wyatt, G. (2001). Introduction to the Series. In S. Haugh & T. Merry (Eds.) *Empathy.* Ross-on-Wye. PCCS Books.

Yu, J. & Kirk, M. (2009). Evaluation of empathy measurement tools in nursing: systematic review. *Journal of Advance Nursing*. 65(9):1790-1806.

Zimring, F. (2001). Empathic Understanding Grows the Person. In S. Haugh & T. Merry (Eds.) *Empathy.* Ross-on-Wye. PCCS Books.

Zubek, J.M., Pruitt, D.G., Peirce, R.S., McGillicuddy, N.B. and Syna, H.(1992). Disputant and Mediator Behaviors Affecting Short-Term Success in Mediation. *Journal of Conflict Resolution*. 36:546.

9. APPENDICES

APPENDIX A

Electronic Databases consulted:

-ASSIA via ProQuest

-British Humanities Index via ProQuest

-ERIC

-Campbell Collaboration

-PsychARTICLES via OvidSP

-PsycINFO via OvidSP

-Social care online

-Social Services Abstracts via ProQuest

-Sociological Abstracts via ProQuests

-Worldwide Political Science Abstracts via ProQuest

- CAPES (www.capes.gov.br, Brazil).

-Ankara University . Journal database.
(http://dergiler.ankara.edu.tr/eng/detail.php?id=40&sayi_id=516)

APPENDIX B

Excluded studies/papers

Author	Pl. Date	Title	Journal	Reasons for exclusion
Araújo, A. P.	2010	Justiça Restaurative na Escola: Perspectiva Pacificadora?	Unpublished dissertation	No data about number of interventions/ participants in each intervention.
Bitschnau, K. I.	2007	Gewaltfreie Kommunikation als relationale und soziale Kompetenz. Eine empirische Studie zur Quälitat Zwischenmenslchlicher Verständigung.	Unpublished dissertation	Unavailable
Bitschnau, K.I.	2008	Die Sprache der Giraffen. Wie die Gewaltfreie Kommukation Ihr Leben verändern kann.	Paderborn (Junfermann)	Unavailable. Not received at the time of completing the review.
Cossetti, V.	2002	Gioia il segreto di una Giraffa, sperimentazione nella scuola ma-terna	Published videotape	Unavailable
Harari, I. & Harari, B.	2006	Final Report. Year 2, NVC in Schools. Implementation Project Pacifica Community Charter School: 2004-2005	Report	No data about number of participants and interventions.

Jones, S.	2009	Traditional Education or Partner-Ship Education.	Unpublished Thesis	Unclear intervention data. Unreliable quantiTative data.
Riemer, D.	2007	Application of Core Strategies: Reducing Seclusion & Restraint Use	On The Edge, 13(3):7-10	NVC training is one of numerous independent variables and only one dependent variable reported.
Riemer, D.	2009	Creating Sanctuary: Reducing Vio-Lence in a Maximum Security Fo-Rensic Psychiatric Hospital Unit.	On the Edge,spring 2009	NVC training is one of numerous independent variables. Two dependent variables reported without specific reference to NVC.

Not found/Unreported Projects/Experiments.

Project/Experiment	Date	Country	Author(s)	Population/setting	Intervention	Outcome
Program for supporting and promoting child development with war affected social context: 'Smile Keepers'. Belgrade. Unicef, Education for Development Program.	March 1993-December 1995	76 places in Serbia and Montenegro	Savic, Nada Ignjatovic	35.000 children aged from 5 to 18 years old. 2.5000 teachers. 76 schools in Serbia and Montenegro.	32 hours training for teachers in a cascade model of training. N.I. Savic trained a group of 20 trainers who trained the teachers who trained children.	Pre-post program assessment revealed children less afraid to express their emotions, better relationships with teachers, better atmosphere in the school, more relaxed and joyful, increased closeness between peers.
Nonviolent Communication in Schools, sponsored by the European Commission	1997-1999	Serbia, Italy, Israel and Palestina		Serbia: 3 schools including 120 teachers, 300 parents and 300 children in total.		
Education for Non-violence: parents, teachers & children working together.	1999-2000	Serbia		7 schools in 6 towns	2-3 days basic seminar for teachers and special 8 sessions program for parents. Various training programs for children.	

Freedom Project in prisons	Founded in 2001	U.S. and Canada		Five prisons in Washington State, three men's prisons at the Monroe Correctional Complex in Monroe, WA, the Women's Correctional Center in Tacoma and the Stafford Creek Corrections Center project in Aberdeen, WA.	Introduce inmates to the basics of Nonviolent Communication through 2-day to fourteen week workshops and more extensive 3-day theme-based trainings in areas such as parenting, using NVC for anger management and reconciliation. At the Twin Rivers Unit, one of Washington State Sexual Offender Treatment Programs, participants meet weekly over a period of 14 weeks, applying the principles of NVC and mindfulness.	

Freedom Project outside prisons: Safe Returns for returnees who had NVC training in prison	Ongoing	USA			NVC workshops and practice sessions in a supportive peer-returnee setting	
Freedom Project Research	2010	Washington (USA)	University of Antioch			NVC training as implemented by Freedom Project in prisons reduces recidivism, creates happier and healthier people, and has saved the State of Washington as much as $5,000,000 a year.
Respectful Commu-nication Training: Final Evaluation Re-Port. Series Editor: Solutions, CEISS Research & IT	2003	British Columbia, Canada.	Cunningham, Renie. The report was prepared for the Public Service Employee Relations Commission (PSERC), Employee Learning Services for their information and use			
International Inten-sive Training Eva-luation Summary. Survey	2000	US	Baran, Gary	Survey designed for participants of NVC International Intensive Trainings		

NVC reduces Bullying by 26% at International School of Helsinki.	2001	Sweden	Rund, Nicki; Olweus, Dan	International School of Helsinki	2 years anti-bullying program applying NVC principles	Outcomes measure: student questionnaire de-signed by Dr. Dan Olweus
NVC in Schools Year 1, Phase I Preliminary Implementation Report. Pilot Project.	January-June, 2004. Initial Phase.	Los Angeles, CA, US	Harari, Brenda; Harari, Itamar; Ryan, J; Caruso, Thomas	Students, teachers, staff, administrators and parents at Pacifica Community Charter School.		
Preliminary Report: Impact of Nonviolent Communication Training at Elias Jimenez Castro School. Survey.	2003-2004 School Year. 2005 Survey.	Costa Rica	Vidya, Shanti; Henson, Cindy	Teachers and students at Elias Castro School	Peace Army volunteers trained a group of teachers. Activities with teachers and students.	Observation from participants. Informal interviews and Teachers Survey
Thesis on Two and a Half Year NVC in Schools Project.	2003	Bremen, Germany	Kenzler, Anja			
N.V.C as a way to reduce violence in kindergartens.	2001	Israel	Einav Nachum			50% of the violence was reduced by using an N.V.C intervention program (developed in Israel) in kindergartens
NVC-based Organizational Needs-Assessment Survey.	2003		Jones, Charles; MacElveen, Kate Grace; Gibson, Neill	Organizations	Development of Training and Empathy Surveys.	

Nonviolent Communication for Prison Officers: Building Value-Based Relationships	2002		Dannahy, P.; Mchale, J	Examples of using NVC in prison settings.		Informal evidence of effective attitude and behavior change
Democracy, Ethics and Communication in School. Research Project Evaluation	October 2002, finishing a 2 years project.	Stockholm,Sweden	Ronnstrom, Niclas	Gustav Vasa Skola, Public School. 460 students in 0-5 grades(ages 6-11) The project was funded by the school authorities. The entire staff of forty people were involved in this project.		The evaluation had three parts: 1. A four-question form 2. A self-estimate scale with about 30 statements to answer in four levels 3. A 40 minute interview With three groups (6-10 teachers in each).
Israeli 1999 Project Report, organized by Education for Life, an international non-profit organization, with headquarters in the Netherlands and offices in Israel	1999	Israel	Rosen, Sharon	500 schools and kindergartens were exposed to NVC in the form of shows and presentations, whilst approximately 24 schools and 300 kindergartens received in-depth programs.		
"Mit dem Herzen hört man besser: Umsetzung der Ge-waltfreien Kommu-nikation an der jahr-gangsgemis-chte Michael Ende Sch."	2008 Unpu-blished Thesis.	Germany	Sach, M.	Secondary School students.		

Appendix D.

List of included studies

1. Altman, T. (2010).Evaluation der Gewaltfreien Kommunikation in quer-und Längsschinittdaten. Unpublished Thesis. Universität Leipzig. Germany. Psychology.
2. Beard, J & English, E. (2008). A new communication course for junior doctors. Life at work Ltd.United Kingdom.
3. Beard, J. , Beard, D. & English, E. (2009). A new communication course for Junior Doctors. *Medical Education*; 43: 496-7.
4. Blake, S. M. (2002). A step toward violence prevention: Non-violent communication as part of a college curriculum. Unpublished Master thesis. Florida Atlantic University. Arts and Letters. US.
5. Branscomb, J. (2011). Summative Evaluation of a Workshop in Collaborative Communication. Unpublished Thesis. Master of Public Health. Rollins School of Public Health of Emory University. US.
6. Burleson, M.; Martin, M. & Lewis, R. (2012). Assessing the impact of Nonviolent Communication. NVC Outcome Evaluation Report. Sacred Space Inc. US.
7. Cossetti, Vilma. (1999).Nonviolent communication: Experimental Project in Primary Schools. Unpublished Researcher Report. Italy.
8. Cox, E. & Dannahy, P. (2005). The value of openness in e-relationships: using Nonviolent Communication to guide online coaching and mentoring. *International Journal of Evidence Based Coaching and Mentoring.*3(1):39-51.
9. Little, M.; Gill, R. & Devcic, C.. (2007).The Compassionate Classroom: assessing the impacts of Non-violent communication. Unpublished report. Canada.
10. Little, M. (2008). Total Honesty/ Total Heart: Fostering empathy development and conflict resolution skills. A violence prevention strategy. Unpublished Thesis. Master of Arts in dispute Resolution. University of Victoria. Canada.
11. Marlow, E.; Nyamathi, A.; Grajeda, W. T.; Bailey, N.; Weber, A. & Younger, J. (2012). Nonviolent communication Training and Empathy in Male Parolees. *Journal of Correctional Health Care.* 18(1). 8-19.
12. Nash, A. L. (2007). Case Study of Tekoa Institute: Illustration of Nonviolent Communication Training's Effect on Conflict Resolution. Unpublished Master Thesis. Master of Science in Sociology. Virginia Polytechnic Institute and State University. US.
13. Savic, N. I.(1996). Mutual Education: Giraffe language in Kndergartens and Schools. Researcher Report. Unicef and Institute of Psychology of Belgrade University. Serbia.
14. Steckal, D. S. (1994). Compassionate Communication training and levels of participant empathy and self-compassion. Unpublished Thesis. PhD in Psychology. United States International University. US.

Appendix E. Measures and outcomes.

Study	Outcomes sought: Impact of NVC on:	Outcome measures: Scales	Researcher made Tests	Outcomes
Altman, T.	1) Competence of Key differentiations: O-E, F-Th* 2)Self-value 3)Coping with negative feelings 4)Levenson's locus of control 5) Empathy, self-empathy and empathy for others.	2) Rosenberg(1965) Self-esteem. 4) Levenson's (1974):I.Internality, P.Powerful Others, C.Chance 5) Self-Other Empathy (Steckal), and "Saarbrücker Persönlichkeits-fragebogen"(Paulus, 2009)a customi-zation of IRI (Davis, 1980)	1)Differentiation between Observations vs. Evaluations and Feelings vs. Thoughts. 3)Test for coping with feelings: a Likert Scale scored list of 20 items.	Crossectional: Positive outcomes on 1, 3, 4P, 5. No diff. on 2, and 4I-C. Longitudinal: Positive outcomes on 2. No divergence on the rest
Beard, J et al 2008 and 2009	Communication skills		Survey: 10 points scale questionnaire on self-perceived level of communication skills and one open question.	Communication skills: Increase from a mean of 4.2 to 8.1. pre-post training. Assessment: Usefulness at work= 7.7 Quality of training= 8.5 Recommendation of course= 9.4
Blake, S.	1) empathy 2) Verbal aggression	1) Empathy Measurement Scale (Stiff et al, 1988). 2) The Verbal Aggressiveness Scale (Infante & Wigley, 1986)		No significant changes pre-post intervention between the experimental and control group.
Branscomb, J.	**Short term**: 1) knowledge of NVC key distinctions. **Intermediate**: 2)Desire to apply principles and get more training/support.		4 Self-reported surveys and 1 observation of participant questionnaire: observer reported.	1) Increase of 8 to 15 % 2) Application of principles= 90% more than rarely. Increased desire to get more training.

	Long term: 3) Change in personal and relationship attributes.			3) Relationships more collaborative
.Burleson et al.	Lives of individuals that have participated in training. Gather evidence to support NVC's effectiveness. On two different groups: A)Atlanta training, and B)web general survey		A) 10 close-ended questions and 3 open questions. B) Web-based Survey with 12 close-ended questions and 4 open questions.	A) 1.Training contributed to changes in their lives= 91.7%. 2. Use of NVC techniques in a variety of settings= 90.9%(home). 3. Practiced intentionally in daily live= 72.2% 4. Taken additional training= 45.5% B) 1) Value highly experience with NVC= 97.6% 2) NVC contributed to changes in their lives= 79.2%
Cosetti, V.	School Community: impact on relationships children-teachers and among children. Levels of empathy, unpleasant situations, conflict and acquisition of NVC skills. Quantitative study concerned teachers, children-mediators and parents.		A) Two pre-post questionnaires: 1) School climate (for parents and teachers only) 2) NVC concepts. B) Teacher filled monthly report (only in experimental groups).	1) Discrepancies between parents and teachers perceptions: teachers agree that children's behavior has improved and levels of empathy have increased. Parents and teachers agree that children are more familiar with behavioral codes. 2)Trained Participants – adults and children-showed

				similar level of acquisition of NVC techniques. Teachers appear more confident in expressing needs and children in asking for actions to be undertaken. B) 1) Reduction on the number of overall conflicts. 2) Reduction of conflicts solved through violence. 3) Increase conflicts solved through nonviolent processes.
Little, M	Conflict resolution, empathy and self-empathy		1) Content ease assessment (Likaert scale) 2) Content application: A: Key differentiations, B: empathy and self-empathy and C: translation of evaluations into feelings and needs.	1) Greater increase on self-expression to be understood. 2) A: participants had a 35% comprehension increase. Control group 16% decrease. B: participants had 57% self-empathy and 76% Empathy increase. Control group decrease of 19% on self-empathy and 9% on empathy. C): Participants had 38% increase. Control had 8% decrease. An average of 44% average

				overall score increase for the participants for section2.
Little et al.	Honesty and empathy	1) School Climate Survey (no information about this survey)	2) Content Survey (Little,2008): key differentiations. Translation of thoughts into feelings and needs.	2) Participants show increased understanding of the NVC key differentiations (girls=29%, boys = 25%). No increase in control group. 1) Participants show a decrease in: joining in when witnessing violence , desire to hit. Increase in nonviolent coping with conflict. Control group shows an increase in verbal and physical violence.
Marlow et al.	Empathy and communication skills	Balanced Emotional Empathy Scale (Mehrabian & Epstein, 1972; Mehrabian *et al*., 1988)		Increase from .50 (pre-test) to .93 (posttest).
Savic, N.I.	Acquisition of nonviolent, compassionate communication skills and constructive conflict resolution. Develop mutual education model. To adopt values of non-violence, self-respect, responsibility, mutuality, co-operation, support, equality and compassion.		Reported by teachers: 1) Daily effects evaluation of seminar during seminar. Self reported 2) Immediate effects evaluation: post-seminar. Self-reported.	In educators: 1) Satisfaction of seminar contents. 2) Gain in self-awareness, self-expression and self-confidence 3) Application of communication skills with positive

			3) Delayed effects evaluation to asses' effects of workshops with children 4) Communication skills estimation scale. Pre-post. Self-reported. Effects on children: 5) Daily evaluation: children reported. 6) Evaluation of children's behavior by teachers. 7) Confidence in people estimation scale and Readiness to co-operate estimation scale: self-reported by older children and adolescents.	effects in relationships. Effects of workshops for children: 1) Positive changes relationships adult-children. 2) Diferent teacher' reactions to aggre-ssion, mischieves and refusal of obedience. 3) Effects in work method and environment. Effects on children: 1)Better able to manage feelings, better conflict management, less disputes, better perspective taking, more empathy, sharing and cooperation, more willingness to learn, better school performance.

Steckal, D.	Levels of empathy and self-compassion	1) Self-Other Empathy Inventory (Steckal, 1994), 2) Interpersonal Reactivity Index. (Davis, 1980), 3) The Helpful Responses Questionnaire (Miller *et al.*, 1991). 4) Marlow-Crowne Social Desirability Scale-Short form (Straham and Gerbasi, 1972).	Self-Other Empathy Inventory	Training group shows: 1) Higher levels of empathy and self-compassion. 2) Higher scores in Perspective taking and less Empathic concern. 3) Higher empathy. 4) No significant correlation between Marlow-Crowne and Self-Other Empathy Inventory.

APPENDIX F

QUANTITATIVE STUDIES QUALITY ASSESSMENT CHECKLIST

Standard Quality Assessment Criteria For evaluating Primary Research Papers (SQAC) (Kmet *et al.*, 2004)

The studies follow alphabetical order no quality hierarchy.

		Altman	Beard et al	Blake	Branscomb	Burleson et al.	Cosetti	Little	Little et al	Marlow	Savic	Steckal
1	Question/objective sufficiently described?	2	2	2	2	2	2	2	2	2	2	2
2	Study design evident and appropriate?	2	2	2	2	2	1	2	2	2	2	2
3	Method of subject/comparison Group selection or source of information/input of variables described and appropriate?	2	2	1	2	2	1	2	1	2	1	2
4	Subject (and comparison group, if applicable) characteristics sufficiently described?	2	1	0	2	2	1	2	1	1	1	2
5	If interventional and random allocation was possible, was it described?	N/A	N/A	N/A	N/A	N/A	0	N/A	0	N/A	0	N/A
6	If interventional and blinding of investigators was possible, was it reported?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

7	If interventional and blinding of subjects was possible, was it reported?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	Outcome and (if applicable) exposure measure(s) well defined and robust to measurement/misclassification bias? Means of assessment reported?*a	2	0	2	1	1	1	1	0	2	1	2
9	Sample size appropriate?*b	Cross=2 Long=0	2	0	2	0	2	0	1	0	2	0
10	Analytic methods described/justified and appropriate?	2	2	2	2	2	1	2	2	2	2	2
11	Some estimate of variance is reported for the main results?	2	0	0	0	0	0	0	0			
12	Controlled for confounding?	1	0	0	0	0	1	1	0	0	0	1
13	Results reported in sufficient detail?	2	2	2	2	2	2	2	2	2	2	2
14	Conclusions supported by the results?	2	2	2	2	2	2	2	2	2	2	2

*a: Outcome measures criteria:

2= Tested existing measures or researcher made validated measures.

1= Researcher made, reported in detail measures (appendices).

0= unreported or partly reported measures.

N/A=Not applicable.

*b: Sample sizes:

 0 = inadequate (< 50/group)

1 = moderate (50-100/group)

2 = large (> 100/group or justified by power calculations)

(Sikorski et al: 2012)

Appendix G

QUALITATIVE STUDIES QUALITY ASSESSMENT CHECKLIST.

Carroll *et al*. (2012) and Kmet *et al*. (2004)

		Blake	Burleson et al.	Cosetti	Cox & Dannahy	Little	Little et al.	Marlow et al.	Nash
1	The question and study design	2	2	2	2	2	2	2	2
2	Selection of participants	0	2	2	2	2	2	2	2
3	Methods of data collection	1	2	1	2	1	2	1	2
4	Methods of analysis	0	1	0	2	0	0	2	2
5	Context for the study	0	2	2	2	2	0	2	2
6	Connection to a theoretical framework/wider body of knowledge	2	1	1	2	2	1	2	2
7	Use of verification procedure(s) to establish credibility?	0	2	0	0	0	0	0	?
8	Conclusions supported by the results?	1	2	2	2	2	2	2	2
9	Reflexivity of the account?*	0	2	0	1	0	0	0	1

Items 1 to 4 belong to the Quality assessment of Carroll *et al*. Items 5 -9 belong to SQAC for Evaluating Primary Research Papers (Kmet *et al*., 2004)

Rating: 2= Yes, 1= partially, 0= No. Carroll *et al*. only propose Yes or No. I have added a "partially" , like the SQAC, for the cases where there is partial description.

Criteria for 1,2,3,4 items (from Carroll *et al.*, 2012):

1. "YES If the choice of study was given and explained.
   NO If article does not specify question and study design.

2. YES If the selection of participants is described explicitly as e.g., purposive, convenience ,theoretical, and so forth. (a)

   NO If only details of participants are given.

3. YES If details of data collection method are given, e.g., piloting, topic guides for interviews, number of item in a survey, use of open or close items, validation, and so forth.

   NO if just only states focus group, interview, questionnaire."(p.1427)

4. YES If details of analysis methods are given, e.g., transcription and form of analysis (with reference to or full description of methods), validation tests , and so forth.
   NO If only states content analysis and that data were analyzed.

(a) In cases where the details presented make clear the method of sampling, even though the word "purposive" or "convenience" is not used, I rated a 2 or a 1 depending on the detail.

*Even though scholars agree on the importance of being reflexive there is not much consensus about how reflexivity can be operationalized (Mauthner & Doucet, 2003). The criteria used here is:
2= use of researcher journal, peer-debriefing or triangulation.
1= reported awareness of how researcher interprets data, his role in the analytic process and the pre-conceived ideas and assumptions he brings to the analysis.
0= no awareness reported.

APPENDIX H. Theoretical Frames

Study	Academic Field	Theoretical Frame	Authors
Altman, T.	Psychology	Nonviolent communication	Marshall Rosenberg
Beard, J. *et al.*	Medicine	Nonviolent communication. The Calgary-Cambridge consultation model	Marshall Rosenberg
Blake, S	Arts and Letters	Social constructionism	Kenneth Gergen
Branscomb, J	Public Health	Public Health	
Burleson, M. *et al.*	Public Health	Public Health	
Cossetti, V.	Education	Nonviolent Communication	.
Cox, E. & Dannahy, P	Coaching and Mentoring	E-mentoring, e-relationships	Various
Little, M. *et al.*	Education	Not reported	Not reported
Little, M	Conflict resolution	Violence prevention programs. Humanistic psychology. Restorative Justice	Various
Marlow, E. *et al.*	Health	Correctional Health. Recidivism. Parolees integration.	Various
Nash, A.L.	Sociology	Conflict resolution. Violence processes	Various
Savic, N.I.	Education	Public education. Education paradigm	Marshall Rosenberg
Steckal, D.	Psychology	Empathy communication. Empathy training.	Various

APPENDIX I. Altman outcomes

Confirmation of hypothesis

Hypothesis	Longitudinal (Effect of Training)*	Cross-sectional (Group differences**)
1. Higher level of competence in differentiating Observation from evaluations	No	Yes
2. Higher level of Self-esteem	Yes	No
3. Higher level of competence in differentiating Feelings from thoughts.	No	Yes
4. Easier coping with negative feelings	No	Yes
5. Higher internal locus of control (IPC-I)	No	No
6. Lower external locus of control (IPC-P)	No	Yes
7. Lower external locus of control (IPC-C)	No	No
8. Higher level of Empathy for SPF test	No	Yes
9. Higher level of Empathy for SOE test	No	Yes
10. Higher level of Self-empathy (SOE test)	No	Yes
11. Higher level of Empathy for others (SOE test)	No	Yes
12. Positive correlation between competence differentiating Observation from Evaluation and Self-esteem.	--	No

*Experimental *versus* control group.
**Persons that had knowledge of NVC *versus* people that did not have knowledge of NVC.

Appendix J

Comparison Interpersonal Reactivity Index (IRI) with the Saabrücker Persönlichkeitsfragebogen zu empathie (SPF) (Paulus, 2009)

Interpersonal Reactivity Index	Saabrücker Persönlichkeitsfragebogen zu empathie .
2. I often have tender, concerned feelings for people less fortunate than me. (EC)	1. I often feel warm feelings for those who are less good than I am
5. I really get involved with the feelings of the characters in a novel. (FS)	2. The feelings of a person in one novel I can often very well imagine.
6. In emergency situations I feel apprehensive and ill-at-ease. (PD)	3. In emergency situations I feel anxious and uncomfortable
8. I try to look at everybody's side of a disagreement before I make a decision. (PT)	4. I am trying to first leg a dispute to understand both sides before making a decision
9. when I see someone being taken advantage of, I feel kind of protective Towards them. (EC)	5. If I see someone is being exploited, I believe, to protect him
10. I sometimes feel helpless when I am in de middle of a very emotional situation. (PD)	6. Sometimes I feel helpless when I am in the middle of a highly emotional situation.
11. I sometimes try to understand my friends better by imagining how things look from their perspective. (PT)	7. Sometimes I try to understand better my friends, by thinking how things from their point of view might look like.
16. After seeing a ply or a movie, I have felt as though I were one of the characters. (FS)	8. After I've seen a film, sometimes I feel as if I was one of the people from this film.
20. I am often quite touched by things that I see happen (EC)	9.Very often I am touched by things that I only observe.
21. I believe that there are two sides to every questions and try to look at them both. (PT)	10. I believe that every problem has two sides and therefore I try to take into account both.
22. I would describe myself as a pretty soft-hearted person. (EC)	11. I consider myself a nice person who shall be rather soft

23. When I watch a good movie, I can very easily put myself in the place of the leading character. (FS)	12. If I see a good movie, I can very easily put myself in the protagonist's shoes
24. I tend to lose control during emergencies. (PD)	13. I tend to lose control in the event of an emergency
26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me. (FS)	14. If I read a good book or story, I try to imagine how I would have felt if the events of the book were happening to me.
27. When I see someone who badly needs help in an emergency, I go to pieces. (PD)	15. If I saw someone who urgently needed help in an emergency, I would certainly collapse.
28. Before criticizing somebody, I try to imagine how I would feel if I were in their place. (PT)	16. Before I criticize someone, I try to imagine how I would feel in his place.
Not included	
1.I daydream and fantasize, with some regularity, about things that might happen to me (FS)	
3. I sometimes find it difficult to see things from the "other guy's" point of view. (PT)	
4. Sometimes I don't feel sorry for other people when they are having problems. (EC)-	
7. I am usually objective when I watch a movie or play, and I don't often get Completely caught up in it. (FS) -	
12. Becoming extremely involved in a good book or movie is somewhat rare for me. (FS) -	
13. When I see someone get hurt, I tend to remain calm. (PD) -	
14. Other's people misfortunes do not usually disturb me a great deal. (EC) -	
15. If I'm sure I'm right about something, I don't waste time listening to other people's arguments. (PT) -	
17. Being in a tense emotional situation scares me. (PD)	
18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (EC) -	

19. I am usually pretty effective when dealing with emergencies. (PD) -	
25. When I'm upset at someone, I try to put	

Appendix K. Blake measures (Stiff *et al*. 1988)

Please circle the number corresponding to how often each statement is true for you personally.

1= almost never true

2= rarely true

3=occasionally true

4=often true

5= almost always true

   a.   Before I criticize somebody, I try to imagine how I would feel in their place.
   b.   If I'm sure I'm right about something, I don't waste much time listening do other people's arguments.
   c.   I believe there are two sides to every question and I try to look at both of them.
   d.   I sometimes find it difficult to see things from the other person's point of view.
   e.   I try to look at everybody's side of a disagreement before I make a decision.
   f.   When I am upset at someone, I usually try to pot myself in his or her "shoes" for a while.
   g.   When I see someone being taken advantage of, I feel kind of protective toward them.
   h.   When I see someone being treated unfairly, I sometimes don't feel much pity for them.
   i.   I often have tender, concerned feelings for people less fortunate than me.
   j.   I would describe myself as a pretty softhearted person.
   k.   Other people's misfortunes do not usually disturb me a great deal.
   l.   I am often touched by things that I see happen.
   m.   I often find that I can remain cool in spite of the excitement around me.
   n.   I tend to lose control when I am bringing bad news to people.
   o.   I tend to remain calm even when those around me worry.
   p.   I cannot continue to feel O.K. if people around me are depressed.
   q.   I don't get upset just because a friend is acting upset.
   r.   I become nervous if others around me are nervous.
   s.   The people around me have a great influence on my moods.
   t.   I usually have a knack for saying the right thing to make people feel better when they are upset.
   u.   I usually respond appropriately to the feelings and emotions of others.
   v.   Others think of me as a very empathic person.
   w.   I am the type of person who can say the right thing at the right time.
   x.   My friends come to me with their problems because I am a good listener.

APPENDIX L.   Branscomb Study Survey.

<u>Collaborative Communication Survey 1</u>

Thank you for completing this quick survey before the workshop!
Please indicate your level of agreement or disagreement with the following statements.
1.
Strongly agree/Agree/Neutral/Disagree/Strongly disagree

I usually know what I want.
Before I express my emotions, I take care to figure out what is going on for myself.
I often take another's anger personally.
When making plans with family members, I work with them so that we both get what we want and
value.

2.
Strongly agree/Agree/Neutral/Disagree/Strongly disagree

I often blame others for my situation.
I see conflict as a possible tool to enhance relationship.
I am comfortable telling others what I want or value.
When I ask for what I want I am willing to hear "no".

3.
Strongly Agree/Agree/Neutral/Disagree/Strongly disagree

When someone is expressing anger, it's hard for me to respond with compassion.
I care about what others want and value.
When asking for what I want or value, I think about the other person's well being also.
I get angry or hurt if someone won't do what I ask them to.

4.
I express my anger without blaming the other person.
I am able to hear another's anger without taking it personally.
Conflict in relationships is always destructive.
I have no trouble expressing what I value.

Please mark the word that better describes what is being expressed.

5. I need you to get me a new car.

Need
Strategy

6. You're always late.

Observation
Evaluation

7. I feel like I want a cup of coffee.

Feeling
Thought

8. You should make supper on Tuesdays and Saturdays.

Demand
Request

9. Yesterday I saw your jacket on the floor.

Observation
Evaluation

10. I want harmony.

Need
Strategy

11. I experience discomfort when I see her.

Feeling
Thought

12. Would you hang your clothes in the closet as soon as you get home?

Demand
Request

13. I feel abandoned.

Feeling
Thought

14. I am feeling some real disappointment.

Feeling
Thought

The Collaborative Communication workshop is built on the ideas and principles of Nonviolent CommunicationTM (NVC).

15. Have you attended other informational or educational sessions on NVC?

Yes, many
Yes, some
Yes, once or twice
No, never

16. Have you read about NVC principles and tools?

Yes, lots
Yes, some
Yes, a little
No, never

17. How likely is it that you will apply NVC tools and principles in your life?

I already have
Highly likely
Somewhat likely
Uncertain
Somewhat unlikely
Highly unlikely

18. How likely is it that you will pursue additional NVC learning after this workshop?

Highly likely
Somewhat likely
Uncertain
Somewhat unlikely
Highly unlikely

19. How likely is it that you will tell others about communication tools and principles you learn in the workshop?

I already do
Highly likely
Somewhat likely
Uncertain
Somewhat unlikely
Highly unlikely

20. How likely are you to join or form a support group to practice NVC?

I already have
Highly likely

Somewhat likely
Uncertain
Somewhat unlikely
Highly unlikely

21. How likely is it that you will teach NVC to others?

I already do
Highly likely
Somewhat likely
Uncertain
Somewhat unlikely
Highly unlikely

22. Please indicate your level of the following.

Veryhigh/High/Average/Low/Very low

Compassion toward yourself

Compassion toward others

Collaboration with others

Connection with others

Caring toward others

23. To what degree do the following words describe your close relationships?

Very high/Somewhat high/Average/Somewhat low/Very low

Compassion
Collaboration
Connection
Caring

What other hopes, doubts or expectations do you have for the workshop?

Collaborative Communication Survey Two

1. Please provide your feedback on the workshop.

Strongly agree/Somewhat agree/Neither agree nor disagree/Somewhat disagree/Strongly disagree

The workshop gave me valuable tools and ideas.

The material was presented in ways that were effective for my learning.

The trainer had firm command of the material being presented.

I felt challenged at times during the workshop.

The trainer was attentive to what was going on for me.

The venue was conducive to the learning experience.

2. How likely are you to tell others about the tools and principles you learned in the workshop?

Highly likely
Somewhat likely
Uncertain
Somewhat unlikely
Highly unlikely

3. How likely are you to apply NVC tools and principles in your life?

I already have
Highly likely
Somewhat likely
Uncertain
Somewhat unlikely
Highly unlikely

4. How likely are you to join or form a support group to practice NVC?

I already have
Highly likely
Somewhat likely
Uncertain
Somewhat unlikely
Highly unlikely

(…)

<u>Collaborative Communication Survey 5</u>

1. As a reminder, this survey is about the person who attended a Collaborative Communicationworkshop about six weeks ago and asked you to help out in our study.

Since the workshop, has this person told you about any of the communication tools and principles he/she learned?

Yes, a lot
Yes, some
Yes, a little
No, none
Not sure

2. What is your opinion of those tools and principles?

Very positive
Somewhat positive
Neutral
Somewhat negative
Very negative
Not applicable

3. Is the person applying the tools and principles in his/her daily life?

Yes, a lot
Yes, some
Yes, a little
No, none
Don't know

4. Please indicate the person's level of the following.
Very high/High/Average/Low/Very low

Compassion toward themselves

Compassion toward others

Collaboration with others

Connection with others

5. To what degree do the following words describe this person's close relationships?
Very high/Somewhat high/Average/Somewhat low/ Very low

Compassion

Collaboration

Connection

Caring

6. Since the person attended the workshop, have you noticed change in how much they...
Much MORE/Somewhat more/No change/Somewhat less/ Much LESS

...show appreciation for what you are feeling, wanting or value?

...express what they are feeling, wanting or value without blame?

...seem to want to work together to resolve conflict?

...ask how life is going for you?

7. Since the person attended the workshop, have you noticed change in how much they...
Much MORE/Somewhat more/No change/ Somewhat less/ Much LESS

...are willing to communicate until you both feel satisfied?

...describe what happened without criticizing?

... show concern for your well being?

...ask for what they want without pressuring?

8. Please add other observations or experiences of this person's behaviors or attitudes, or of your relationship with them, since they attended the Collaborative Communication workshop.

Ssurvey section dedicated to the impact on individual needs:

(11) Has practicing Nonviolent Communication in your life impacted any of the following?

<div style="text-align:right">Great deal   Much Somewhat Little   None</div>

Compassion (Deep awareness of the pain

Or joy of another)

Connection (Rapport or meaningful rela-

Tionships with others)

Power (Sense of living life with capacity

For effectiveness and self-sufficinecy)

Relationships (Mutual experiences with and

Dealings between two parties)

Understanding (Ability to appreciate the meaning

of the life experience related to others)

Well-being (The experience of being healthy, happy,

 and comfortable as it relates to psychological,

emotional spiritual and mental states).

APPENDIX N. M. Little's tests (2008).

SECTION I: Content Ease Assessment

First, Marion would like you to answer questions about what kinds of situations are easy for you right now. Different people have a hard time with different things. This will help her plan the workshops, and know how useful they were afterwards.

It is easy for me to: Never- Sometimes - Often - Almost always.

1. Be honest without insulting people.

2. Say things to myself that make me feel safe and strong.

3. Stop from saying things to myself that feel bad.

4. Be angry without scaring or hurting people.

5. Feel strong and safe when people are arguing

6. Tell people what I don't like, and have them still respect me and be nice to me.

7. Enjoy other people

8. Tell people when I really like what they do.

9. Express myself so I am understood.

10. Tell people when I really like them.

11. Say "sorry" in a way I really mean it, without sounding stupid or weak.

12. Be with people who are angry with me, without getting scared or hurt (staying safe and calm).

13. Feel okay when people complain about me.

14. Realize it when people really like me.

15. Be caring to my friends and family when they are hurting inside or upset.

16. Realize when people really like what I do.

17. Communicate when people say "no" so that I still get what I want and they still like me.

18. Say "no" without getting into trouble, or an argument.

19. Protect myself without punishing someone else, or coming down on them.

20. Protect others without punishing them or coming down on them.

SECTION II: Content Application Assessment

This next series of questions are designed to find out how effective Marion's presentation skills and workshops are. This is done by finding out what you already know before the workshops and comparing that with what you know after the workshops. The questions have to do with skills and ideas that will be covered during the workshops. Many of the questions may not make much sense until after the workshops, and just as many may seem like common sense to you. Just answer whatever makes the most sense to you now. Remember, this is a way of testing Marion and the workshops, not you.

A. Key Differentiations

For this section, please match each phrase on the left with one of the categories on the right. Make a clear mark in the category that best describes the phrase for you. Just pick whatever makes the most sense to you. Your answers are anonymous.

1. Observation or Evaluation? Observation /Evaluation /Not Sure

This place is a mess.

He phoned me three times in the last hour.

What an incredible day.

She is standing with her back to me.

2. Feeling or Thought? Feeling /Thought /Not Sure

I am so stressed out right now.

I feel that she is ignoring me.

I am so excited.

I am so insulted

3. Need or Strategy? Need/Strategy/ Not Sure

I need you to stay here with me

I'm really needing some company

I need some consideration.

I need you to be on time.

4. Request or Demand? Request /Demand/ Not Sure

Please do as I say.

Would you lend a hand?

Aw, come on, can't I borrow it a bit longer?

Would you let me know where you're at with all this?

Would you tell me what you just heard?

5. Protecting or Punishing? Protecting/ Punishing/ Not Sure

That was a dangerous thing to do. How could you be so thoughtless!!!

I'm so frigging hurt and confused!!! I just need some straight information and consideration!!!

I should've known better, I always get into these situations, I'm such an idiot!!!

I am so furious. You could've been hurt and I want to keep you safe!!!

6. "Power-with" or "Power-over" Which situations describe times you might experience

power-with someone, power-over someone, or them having power-over you.

Power-with/ Power-over/ Not Sure

There will be serious consequences if you don't follow the rules.

In this place, I can count on people to show consideration and respect for each other.

Sometimes I come down on people so hard guilt-tripping and blaming and the whole deal.

If you do what I say, I'll buy you that thing you always wanted.

I often don't like making dinner, but I keep choosing to because it's important to me to take care of myself and the people I care about.

7. Guessing or Telling? Guessing/ Telling/ Not sure

Are you frustrated?

You just need some exercise.

Do you need some peace and quiet?

Oh, you're pissed-off.

8. Need Judgment or Right/Wrong Judgment? Some judgments are based on our needs and some on what we think is right or wrong. Identify which are needs based, and which are right/wrong based. Feel free to write in any needs that you think fit.

Need judgment /Right/Wrong judgment /Not Sure

All children are entitled to fresh food and water, shelter, rest, play, and caring adults.

Birth control is a sin.

She is such a good girl.

Everyone deserves equal pay for equal work.

B. Situational Application

In the first column, try to imagine what your own feelings and needs might be if you were in the following situations. In the second column, try to imagine what the other person's feelings and needs might be.

1. My 2. The other person's

The situation: Feelings / Needs. Feelings / Needs

My sweetheart has plans to go out with friends, but I want to spend the evening together – just the two of us. (What are my feelings and needs, what are his/hers?)

Another girl sees me talking to her boyfriend and then "tells me off" after he's left. (What are my feelings and needs, what are hers?)

The clerk at the store kept asking if I wanted help finding things and then basically followed me around pretending to arrange the shelves. (What are my feelings and needs, what are the clerk's?)

C. Translation

Imagine what feelings and needs you might be having if you were thinking the words in the left-hand column (example: 1. "I'm being betrayed"). Just write the feelings and needs that come easily to you and leave it blank if nothing comes to mind.

Thought:

"I'm being…"

Feelings/ Needs

1. Betrayed

2. Blamed

3. Criticized

4. Ignored

5. Manipulated

6. Misunderstood

7. Pressured

8. Rejected

9. Taken for granted

10. Tricked

11. Used

Appendix O. D. Steckal 's Self-Other Empathy Inventory.

Directions. Please indicate your amount of agreement with each of the following statements by placing an "x" in the corresponding box. (Strongly agree, Mildly agree, Neutral, Mildly disagree, strongly disagree)

1. It is important for me to listen to my inner feelings about a situation.
2. When I am trying to understand someone, it is ok to guess what that person is feeling and check this out with him/her.
3. I'd rather tell myself to cheer up than acknowledge my sad feelings about a situation.
4. When I listen to another in a caring way, I like to analyze or interpret their problems.
5. If I'm feeling upset about the way an event has turned out, it is helpful to consider what I would have liked to have happen.
6. I like to give advice when I listen to another's concerns before asking the person if they would like advice.
7. If I'm feeling apprehensive about a situation, it is helpful to distract myself by keeping busy or thinking about other things.
8. When I listen to another's feelings, it is helpful to also listen for what they may have been wanting.
9. I prefer to take action on a situation rather than take time to consider my feelings about it.
10. When someone seems down about a situation, it is helpful to get them to focus on the brighter side of the situation.
11. When I'm feeling upset, I find it helpful to remind myself that things could be worse.
12. When I would like to understand another more clearly, it is helpful to paraphrase what I've heard them say.
13. It is important to allow myself time to feel pleased or proud when I recall something think I've done well.
14. If someone I care about seems upset, it is a good idea to help them find reasons to feel differently about the situation.
15. If I'm feeling unsure about the situation, it is helpful to consider the results I would like to obtain, before I take action.
16. When someone I care about appears worried, it is helpful to reassure them that things will get better.
17. I am aware of the differences between my inner feelings and my thoughts or judgments.
18. When someone appears upset or critical about my behavior, it is best to offer a quick apology.
19. When I believe I've made a wrong decision, it is easy to put myself down about it.
20. When someone appears to criticize me, it is helpful to listen to what that person is feeling.
21. If I have strong feelings about a situation it is helpful to consider my values as well.
22. When someone seems down about a situation it is helpful to get them to look at it from another perspective.

23. If I notice I am feeling tired, it is important for me to find some time to rest.
24. When I do not understand another's reaction, it is ok to guess what the person may be reacting to and check this out with them.

School of Health and Related Research
Research Ethics Review
for Postgraduate-Taught Students

Form 1B: Student Declaration (for research that does not involve human participation or analysis of secondary data)
To be included in Appendices of dissertation

Research Project Title: What is the impact of the application of the Nonviolent communication on the development of empathy? Overview of research and outcomes.

In signing this Student Declaration I am confirming that:

My proposed project will **not** i**nvolve people participating in research either directly** (e.g. interviews, questionnaires) **and/or indirectly** (e.g. people permitting access to data).

My proposed project does not therefore require an ethics review and I have not submitted a Research Ethics Application Form.

Name of student: Carme Mampel Juncadella

Date: 8th of October of 2013
Signature of student:

Name of supervisor:

Signature of Supervisor: