

## Generating empathy: Types of interventions

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Intervention type	Sample intervention / study details	Sample results
<b>Fundamental Building Blocks of Empathy</b>		
<p><b><i>Motor mimicry</i></b> Empathy is related to mirror neuron activation in the brain. Many studies point to the important role of imitation (either imitating others' actions or being imitated) in developing empathy. Imitation is so rudimentary to humans that it is seen in newborn babies.</p>	<p>Participants all watched a video of a person from a charitable organization discussing the organization. All participants were asked to pay attention to his specific facial movements, but only half of them were also asked to mimic them. They were then given an opportunity to donate to the organization. [1]</p>	<p>Participants who were mimicked the facial expressions of the person in the video donated more money to the organization.</p>
<p><b><i>Attachment security</i></b> The attachment system is rooted in our earliest interactions with our primary caregivers. It functions to help people feel safe, calm, loved, and able to handle life's difficulties. Some research suggests that it plays a primary role in helping people to care for others.</p>	<p>Participants randomly divided into 3 experimental conditions: 1) seeing the name of a participant's security-providing attachment figure (e.g. mom), 2) seeing the name of a close person who does not function as an attachment figure (e.g. friend), and 3) seeing the name of a mere acquaintance. Participants then watched another participant in real time via video as she performed a series of aversive tasks in a nearby room. As the study progressed, the other participant became increasingly distressed. After a short break in the study, participants rated their emotional reactions while watching the confederate (compassion, personal distress) and their willingness to help by replacing her in the subsequent tasks. Afterwards, they were told that the confederate felt too uncomfortable to continue and were given the opportunity to trade roles with her. [2]</p>	<p>Being reminded of a close attachment figure (e.g. mom) caused more feelings of compassion and more willingness to help the distressed woman.</p>
<p><b><i>Nurturance or care for babies or children (vulnerable others)</i></b> Evolutionary theorists believe that the evolution of empathy is rooted within parental care and nurturance. Indeed, there is some research evidence that vulnerable targets elicit more empathy.</p>	<p>This study examined the levels of empathy felt for four different targets, all of whom had to go through painful rehabilitation exercises: a 20 year old college student, a 3 year old girl, a 5 year old dog, and a 4 month old puppy. Participants read a story about the rehabilitation experiences that was identical except for the target was different. They then rated the degree of empathy they felt. [3]</p>	<p>Participants reported more empathic feelings for the more vulnerable targets: child, puppy, and even the dog, compared to the 20 year old college student. This suggests that empathy can be promoted by focusing on cute or vulnerable others such as babies or animals.</p>
<p><b><i>Nurturance or care for animals (vulnerable others)</i></b> Similar rationale as for nurturance or care for babies or children.</p>	<p>Healing Species - animal-assisted, school-based violence prevention/intervention and character education program. Does not target just aggressive kids, but rather all kids. Teach 1) How to identify and practice prosocial behaviors, b) how to be empathic.</p>	<p>This was a pre/post design study. The intervention significantly improved empathy. However, there was no control group in this study.</p>

	Lessons: grieving, empathy, self-responsibility, sharing, cooperating, and service to others. Children practice their new skills through interactive projects and service learning activities. Dogs' physical presence in the classroom provides children with the opportunity to witness prosocial behavior (e.g., petting a frightened animal), practice prosocial behavior (petting the dog themselves), and be reinforced for their behavior (praise by Healing Species staff). [4]	
<b>Executive function</b> This encompasses the regulation, control, and management of cognitive processes, including planning, attentional focus, response inhibition, and task switching. Much scientific research demonstrates that several aspects of executive function are related to empathy and prosocial behavior.	Children completed a Dimensional Change Card Sorting (DCCS) task, in which they have to sort cards by different dimensions in order to test their ability to flexibly switch tasks (e.g. first sort by color, then sort by shape). There are different ways to play this game. For example, in one version, a girl character wants all the fish pictures and a boy character wants all the horse pictures. Then the girl and boy character reverse what they want (she wants the horses, he wants the fish). [5]	Executive function training improved theory of mind (the ability to imagine what others are thinking) in children.
<b>Higher Level Cognitive Skills Related to Empathy</b>		
<b>Role taking or perspective taking</b> These involve asking people to try to vividly imagine other people's situations, feelings, and points of view. Often the targets of such perspective taking are vulnerable or stigmatized in some way.	<p><i>a. Role taking.</i> The Empathy Training Game aimed to train people in the two basic skills involved in empathy - understanding and sensing the other person, and communicating this understanding to him or her. The game involves analysis, diagnosis, and understanding a target "client" on the one hand and role playing the client on the other. [6]</p> <p><i>b. Perspective taking.</i> The most commonly used method of increasing empathy is by asking participants to imagine what other people are feeling and thinking, and how situations or events have affected their life [7].</p>	<p>a. Empathic skills higher in empathy training group compared to control group.</p> <p>b. People who are asked to imagine others' perspectives feel more empathic emotions like compassion and are more likely to help.</p>
<b>Emotion recognition or empathic accuracy training</b> These interventions involve teaching people to better identify signals of emotion in others faces, voices, body language, and situations.	This study was conducted in a medical school setting and had 5 emotion-recognition training conditions, compared to a control group. a) Comprehensive (includes all training components of other conditions), b) Consciousness-Raising (videotape presentation that highlights emotion recognition and empathic communication in the medical interview), 3) Instruction (videotaped presentation - provides information to aid in emotion cue recognition), 4) Practice Alone (take emotion recognition test with no feedback), 5) Practice with Feedback (take emotion recognition test and get instant feedback). [8]	Emotion recognition skills highest when training involves multiple components: watching a video on the importance of empathy in medical setting, receiving instruction on emotion cue recognition, practicing emotion recognition on one's own, practicing it with feedback. Components do not seem to work well on their own, except for practicing with feedback.

<p><i>Meditation or mindfulness</i></p>	<p>9-week compassion cultivation training (CCT) program. Each class: a) didactic instruction with active group discussion, b) guided group meditation, c) interactive practical exercises related to the specific step of the week (see below), d) exercises designed to prime feelings of open-heartedness or connection to others, either through reading poetry or through reflecting on inspiring stories. Finally, participants were encouraged to participate in informal/formal home meditation practice for at least 15 minutes (building up to 30) per day using pre-recorded guided meditations. Specific steps of the week: Classes designed to deliver both didactic and experiential training in compassion practices across six steps: 1) Basic skills needed for any contemplative or reflective practice, namely, learning to focus and settle the mind. 2) Experiencing loving-kindness (a technique to increase feelings of caring and warmth for oneself and others, and compassion for a loved one and, on this basis, learning to become aware of the psychosomatic experiences associated with these. 3) Loving-kindness and compassion for oneself. 4) Compassion towards others through embracing our shared common humanity and appreciating the interconnectedness of self and others. 5) Compassion towards all beings. 6) An "Active compassion" practice where one imagines taking away others' pain and sorrow and offering them joy and happiness. [9]</p>	<p>Participants had a significantly lower fear of giving compassion to others after the compassion cultivation training group when compared to the control group.</p>
<p><i>Narrative-based</i> These involve writing down brief stories or reading passages from short stories, poetry, etc. There is a link between fiction-reading and empathy, and recently there have been randomized control trials showing a causal link.</p>	<p>Reading a fictional story in a highly vivid way: In the empathy-inducing condition, participants are given instructions on how to generate imagery while reading a story about characters using multiple sensory modalities, including visual, auditory, smell, and touch. This is contrasted with control groups that focus on the meaning of the words in each sentence or reading the story for leisure. [10]</p>	<p>Imagery-generation led to more empathy for the story's characters than other conditions.</p>
<p><b>Relationship-Building Processes Related to Empathy</b></p>		
<p><i>Empathic role models or observing kind acts</i> People can become more empathic after observing others' kindness. This starts in children and also affects adults. Empathic role models can have powerful effects. Yet it is important to consider contrast versus assimilation effects. A saintly person may make people less likely to help, whereas</p>	<p>In the <u>superhero</u> condition, participants were primed to think about superheroes: "For this task we would like you to describe the characteristics of a superhero. Think of a superhero and list the behaviors, values, lifestyle, and appearance associated with these characters." In the <u>Superman</u> condition, they were given the same information, but asked to think specifically of Superman. In the <u>Control</u> condition, they were asked to describe a dorm room. The outcome measure was willingness to volunteer. [11]</p>	<p>Participants who thought about the superhero reported that they were willing to volunteer more than twice as much as the control condition. Thinking of Superman was associated with less helping behavior. The general category is more effective than specific exemplars, who are not attainable for most people.</p>

thinking of similar categories of people can increase prosociality.		
<p><b>Similarity to self</b></p> <p>This category includes similarity of life experiences, traits, or beliefs. Theoretically there should be higher empathy in circumstances that help to highlight the similarity between the self and others.</p>	<p>Participants were randomly assigned to share an incidental similarity (e.g. horoscope sign) or not with another participant. The other participant later asks participants if they would be willing to help them read her 8 page English paper and provide detailed written feedback for a peer-review assignment. [12]</p>	<p>Participants were significantly more likely to agree to the request (62.2%) if they thought they shared a key similarity than if they did not (34.2%).</p>
<p><b>Closeness to others</b></p> <p>People tend to feel more empathy for their closest others, and indeed studies find that created closeness between people can increase their empathy.</p>	<p>The objective of the study was to investigate effects Human Relations Training (HRT) in group settings. <u>Group A</u> (the true intervention group): First 7 sessions devoted to building group cohesiveness via exercises to foster trust, self-disclosure, immediacy, and other behaviors (e.g. trust walks, personal self-disclosure). Then, 13 sessions spent on HRT. <u>Group B</u> (weaker intervention – no group cohesiveness exercises): 13 sessions spent on HRT: 1) explaining the skill, 2) modeling or demonstrating the skill, 3) practicing the skill. Videotapes, handouts, films, and audiotape used to enhance. Skills taught: empathy, genuineness, immediacy, self-disclosure. 50% of the time spent on empathy training. <u>Control group</u>: a class of similar students enrolled in educational psychology. [13]</p>	<p>Participants in Group A (group closeness) scored higher than both Group B (didactic training only) and the control group on empathy vignettes. This suggests that closeness-building activities can increase people's empathy.</p>
<p><b>Gratitude</b></p>	<p>Participants completed a number of tasks in the same room, but a different booth, as another participant. They were placed into one of three conditions. In the <u>gratitude</u> condition, the confederate helps them when their computer breaks during a study task, so that they can avoid repeating it. In the <u>amusement</u> condition, they watch funny television clips. In the <u>control</u> condition, they have a brief neutral conversation about where the experimenter might be. Helping behavior is measured at the end of the study. The confederate asks participants if they would be willing to help with a survey for one of her classes. [14]</p>	<p>Participants in the gratitude condition felt more grateful, and also were more likely to help than those in the other conditions. Two additional studies found that experiencing gratitude made participants even help a stranger more (i.e. someone other than the benefactor).</p>
<p><b>Conflict resolution</b></p>	<p><i>Second Step: A Violence Prevention Curriculum</i>: uses 30 specific lessons to teach social skills related to anger management, impulse control, and empathy. The goal is to increase prosocial behavior and decrease aggression. Each lesson consists of a photograph accompanied by a social scenario that forms the basis for discussion, role-plays, and conceptual activities. Lessons are arranged in 3 units 1) empathy training (identifying own feelings and those of others), 2) impulse control (presented with problem-solving</p>	<p>The Second Step program has been evaluated in a number of studies and has had inconsistent results. In this study, direct observations found an increase in neutral / prosocial behaviors. When the findings for classroom and playground/cafeteria were combined, there was a net</p>

	strategies and behavioral skills), 3) anger management (presented with coping strategies). Sessions include role-playing, student skill practice, feedback, and reinforcement for appropriate skill use. [15]	increase in neutral / prosocial behavior (+3.96 events per hour) between pre and post (two weeks later). The control group experienced little change.
<p><b><i>Active or reflective listening</i></b></p> <p>These involve teaching people to listen to others' experiences without judgment and to reflect back on what they are saying to make sure they feel understood. The goal is simply to hear and understand the other person, without giving advice or opinions.</p>	<p>All three groups received 1-hour lecture on active-listening skills. Emphasized components of reflection of feelings technique: a) Identify emotions expressed by another person and b) Verbally communicating this understanding with an emotionally equivalent response. Control group receives no other intervention. Two treatment groups: Self-Directed versus Teacher-Intensive. <i>Self-Directed</i>: Viewed videotapes. First set: Identify expressed emotions in monologues of students discussing events in their lives. Second set: Provides models of good/bad listeners and demonstrated reflection of feelings technique. Role-playing was encouraged. <i>High teacher-intensive group</i>: Phase 1: Presented with written vignettes and asked to identify emotions. Phase 2: Engage in two audiotaped 15-min interviews discussing a problem situation. Students gave analyses. Evaluated by teacher. Final week: Two 2-hour didactic training sessions. Intensive training through role-playing and feedback. [16]</p>	<p>Both self-directed and high teacher-intensive groups lead to higher ability for participants to accurately reflect others' verbally expressed emotion, compared to control condition.</p>
<b>Behaviors Related to Empathy</b>		
<p><b><i>Directly participating in kind or prosocial acts</i></b></p> <p>Empathy can develop through the practice of prosocial acts. It is not currently known exactly why this may be, but it could be because of increased feelings of closeness and connections with the recipients.</p>	<p>The tutoring program, "Young Tutors", took place at a large secondary school in Tel Aviv. It is offered as an elective subject of study to freshmen at the high school level (16 years old). Under supervision, the participants tutored underachieving students from the junior high level (ages 13-14) – they met twice weekly. Tutors also received training beforehand, including lectures on the problem of underachieving students, and methods of teaching specific school subjects. They also participated in tutorials that employed role-playing, modeling, and case analyses. [17]</p>	<p>Cross-age tutoring significantly increased the tutors' empathy and altruism.</p>

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