Empathy

The Science of Resilience

rrc@dal.ca
www.resilienceresearch.org

RRC - Evaluation
and Training Institute

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Definition

Empathy is an emotional response engendered by exposure to the emotional state of another, which matches that person's emotional state (i.e., emotional empathy), or when one looks at a situation from another person's perspective and is able to understand how that person feels about the situation (i.e., cognitive empathy). In short, empathy is the capacity to understand and share in the unique emotions and perspectives of another person. Often the two types of empathy are experienced together, but they can occur in isolation as well.

Empathy has gone through myriad versions of definitions since researchers and therapists developed interest in the quality in the early 1900s. Defining empathy in the scientific world has been met with uncertainty and inconsistency and is still a challenge that researchers are facing today (Barrett-Lennard, 1981; Hojat, 2009; Reniers, Corcoran, Drake, Shryane, & Völlm, 2011). Much of the debate surrounding the definition of empathy lies in whether empathy requires cognitive skills, vicarious emotionality, or both (Choplan, McCain, Carbonell, & Hagen, 1985; Jolliffe & Farrington, 2004). This discrepancy can be seen in measures of empathy that were developed early on, such as the Hogan Empathy Scale (Hogan, 1969) which measures only cognitive empathy, and the Questionnaire Measure of Emotional Empathy (Mehrabian & Epstein, 1972) which measures only emotional empathy.

Generally, the consensus among researchers today, although not ubiquitously, is that a multidimensional approach to empathy must be taken. This multidimensional approach suggests that both perspective taking (i.e., cognitive empathy) and vicariously experiencing another person's emotional state during an emotionally charged situation (i.e., emotional empathy) are required in the definition. The two components of empathy are not expressed in the same way; emotional empathy can help an individual provide more hasty responses to a situation, sometimes relying on verbal, facial, or vocal cues, while, cognitive empathy requires thoughtful analysis of the situation and the responses of the other person, and necessitates an individual to fastidiously identify the best way to respond (Reniers et al., 2011).

An issue that arises from the single word "empathy" requiring a multifaceted definition (i.e., cognitive and emotional facets), is that it implies the two separate concepts are somehow innately interconnected (Mehrabian, Young, & Sato, 1988). This is not justified, as cognitive empathy is intellectual in nature, and requires basic social skills and perceptiveness in social situations, whereas emotional empathy is more primitive in nature and requires more intuitive emotions wherein the emotion another person is expressing is "contagious" (Mehrabian et al., 1988). For example, if an individual sees someone crying and knows the circumstances that made that person cry, someone employing cognitive empathy would consider the situation and attempt to see it from that person's perspective before deciding how to respond, whereas someone employing emotional empathy would see that person crying and feel sad or feel like crying with that person, regardless of if they truly understand that person's perspective. This

gives rise to the idea that one type of empathy can be experienced without the presence of the other. This notion was supported by Reniers et al. (2011) who found that cognitive and emotional scales of empathy are moderately correlated, showing that there is a relationship between the two types of empathy, but the two remain distinct.

Smith (2006) suggests that cognitive and emotional empathy are complementary of one another, and thus, facilitate prosocial tendencies. He theorized that if cognitive and emotional empathy are always felt equally in combination, the resulting affect would be overwhelming. Smith (2006) suggests that it is important to be able to identify and understand others' perceptions and behaviours, but not always necessarily feel them emotionally as a response. However, cognitive empathy with too little emotional empathy might result in devious or selfish (non-altruistic) behaviour, a theory that has been well-supported in the literature (Dadds et al., 2009; Jolliffe and Farrington, 2004; van Langen et al., 2014). Emotional empathy without cognitive empathy could reduce violent tendencies, allow individuals to respond more quickly to emotional situations, and enrich sensitivity to others' emotions. When experienced in combination, however, empathy helps humans best respond to emotional stories or situations, as emotional empathy would help a person feel more inclined to respond in a prosocial manner, while cognitive empathy would provide insight on how to do so (Smith, 2006).

There are a few aspects of empathy that are agreed upon regardless of which school of thought a researcher approaches empathy from (i.e., emotional, cognitive, or both). First, empathy varies from person to person, implying it is an individual differences factor (Mehrabian et al., 1988). Some characteristics that make a person more likely to display empathic behaviours include prosocial orientation, social functioning, aptness to help others, and positive child-rearing experiences growing up, as well as gender differences which see women behaving more empathically than men (Chopik, O'Brien, & Konrath, 2017; Mehrabian et al., 1988; Muncer & Ling, 2006). Moreover, a person feeling empathic must be aware that the other person's feelings and perspectives are distinct from one's own, and in doing so, the person must be present in the experience of the other person, but not personally triggered by the other person's situation (Barrett-Lennard, 1981). Empathy can be considered both a trait and state quality, meaning some people are more naturally empathic than others as a result of genetics or early childhood experiences, but empathy is sometimes expressed more intensely or differently depending on the state of the person in that moment (Baron-Cohen & Wheelwright, 2004).

Another challenge in defining and understanding empathy is that one must be able to distinguish between empathy and empathy related reactions such as sympathy or personal distress. Indeed, empathy and sympathy are related, however, they are distinct concepts that can occur in silo or simultaneously (Eisenberg, 2010). Sympathy refers to the way an individual feels for another person without adopting that person's frame of reference or sharing in that person's emotion (Eisenberg, 2010). A person expressing sympathy is experiencing a vicariously induced emotion, but the emotion is not necessarily matching that of the person receiving

sympathy. As discussed, empathy refers to the attempt to have emotions and thoughts congruent with that of another. Sympathy and empathy can be experienced simultaneously, as mentioned above. For instance, a person may understand how another person is feeling and share in those feelings, which would qualify as empathy, but also experience concern for that person's wellbeing, which would signify sympathy. Contrarily, a person may experience cognitive empathy for another person, understanding that person's frame of reference and perspective on the situation, yet feel no sympathy for that person, as they might believe that person is at fault for the situation they are in (Jolliffe & Farrington, 2006).

Empathy tends to differ cross-culturally. Generally, cultures that have higher empathy levels also tend to be collectivist, have higher levels of self-esteem, conscientiousness, agreeableness, well-being, and pro-social behaviour (Chopik et al., 2017). Chopik and colleagues (2017) examined the mean empathy scores of individuals from 63 different countries and compared them cross-culturally to inform the literature on how empathy can vary depending on where an individual is raised. The researchers found that those who live in individualist cultures had lower empathic concern than collectivist cultures and depending on the mean cultural levels of personality types, well-being, and prosocial behaviours, empathy varied. More specifically, if a country had higher levels of the personality types agreeableness, conscientiousness, the individuals in that country were more apt to reveal empathic tendencies. Self-esteem and emotionality were also positively related to empathy. The countries with the highest empathy scores in Chopik and colleagues' (2017) sample were Ecuador, Saudi Arabia, Peru, Denmark, and the United Arab Emirates, while the countries with lower empathy scores were Lithuania, Venezuela, Estonia, Poland, and Bulgaria.

Relationship to Resilience

The relationship between empathy and resilience is an ongoing discussion. Some researchers have found significant correlations between the two (Mathad, Pradhan, & Rajesh, 2017; Morice-Ramat, Goronflot, & Guihard, 2018), while other researchers have found no relationship (Olson, Kemper, & Mahan, 2015). Empathy, or lack thereof, can be productive or detrimental to one's ability to be resilient. To have empathy means to be able to build solid social relationships, build healthy and functional family dynamics, and connect more strongly with the society we live in (Jakovljevic & Tomic, 2016). Having strong family dynamic (e.g., sibling relationships; Wojciak, McWey, & Waid, 2018), strong social relationships (Graber, Turner, & Madill, 2016), and adults to look up to during childhood improves resilience (Ungar, 2013), so having empathy to foster those relationships would promote resilience. Resilient families might describe empathic actions helping them through their hardships, with their experiences putting them in a unique position to understand those they are helping (Leitz, 2011). Conversely, health care providers might experience lower empathy in order to protect themselves at work when conducting difficult procedures (Hojat, Vergare, Maxwell, Brainard, & Herine, 2009; Nunes, Williams, Sa, & Stevenson, 2011; Yarascavitch, Regehr, Hodges, & Haas,

2009). Although a supression of empathy in the case of health care workers has been argued to be useful, in most cases lack of empathy is a risk factor, sometimes leading to criminal or antisocial behaviours (Jolliffe & Farrington, 2004; van Langen, Wissink, van Vugt, Van der Stouwe, & Stams, 2014), or burnout (Morice-Ramat et al., 2018).

A more in-depth examination of empathy and resilience is presented here, however, it is important to know that there is a lack of literature discussing how empathy and resilience are related (Morice-Ramat et al., 2018). Much of the extant literature discusses how empathy and resilience interventions can improve specific characteristics or aspects of peoples' lives, but little examines the exact relationship between the two concepts.

Family Resilience

Leitz (2011) examined a group of families who experienced hardships (e.g., loss of a relative, parental addictions, poverty, etc.) but were able to maintain or recover healthy family functioning, displaying resilience. The goal of the study was to understand the steps families take to remain resilient and support their healthy family functioning. Leitz found that families behaved in prosocial, altruistic ways, such as participating in volunteerism, facilitating support groups, providing mentorship, or activism groups, and this helped the families remain positive and resilient despite their hardships. The families generally had experienced similar situations as those they were helping, so they were uniquely able to understand and experience empathy for those people, since they truly knew how it felt to be in that position. Empathy was a theme that emerged in each family's story of resilience, displaying the link between resilience and empathy. A second theme that emerged was meaning-making, another component of resilience which has been identified. [See our write-up on meaning-making for more information on its role in resilience].

Adolescent Resilience

Hippe (2004) posits that self-awareness is a pre-cursor to resilience. An important way to build self-awareness appears to be through receiving empathy. Hippe (2004) discusses that by showing a child empathy, an adult can help the child identify strengths and weaknesses, allowing the child to understand how he or she can build accurate self-awareness, thus, enhancing resilience.

In addition to the phenomenon of cultivating resilience by way of receiving empathy, individuals can also develop resilience by being empathic. For example, Vinayak and Judge (2018) examined empathy, resilience, and well-being in a group of adolescents aged 13 to 15 years old, and found that girls were higher in empathy and resilience, both of which predicted well-being, while only resilience predicted well-being for boys. A link was found between empathy and resilience, as girls were found to be more empathic and resilient than boys. Moreover, by practicing empathy, individuals are experiencing challenging situations

vicariously, and are learning how to be resilient and navigate through stressful situations (Brooks & Goldstein, 2003).

Lack of Empathy as a Criminogenic Factor

Many researchers speculate that empathy encourages and influences altruistic and prosocial behaviour, while lack of empathy can be considered a risk factor or, in severe circumstances, a criminogenic factor, indicating likelihood of deviant or antisocial behaviour (van Langen et al., 2014). Jolliffe and Farrington (2004) conducted a systematic review and meta-analysis which included studies examining the relationship between empathy and offending behaviour. van Langen et al. (2014) sought to replicate and expand on Jolliffe and Farrington's (2004) review with their own meta-analysis, finding similar results. The two groups of researchers found that both emotional and cognitive empathy were negatively correlated with criminality but revealed that cognitive empathy is more strongly related to offending than is emotional empathy. It has been suggested that people who behave in antisocial ways might have lower cognitive empathy, because they are not inclined to consider how their behaviours are impacting others, therefore, they would not identify how the victim is feeling and thus emotionally empathize with them (Jolliffe & Farrington, 2006). Alternatively, Dadds et al. (2009) suggested that those with psychopathy may have cognitive empathy that is unaffected; they may be able to explain how a person is feeling, but do not care about these feelings and are unable to share in them.

van Langen and colleagues suggest that because lack of empathy can be considered a criminogenic need, it should be addressed by the Risk-Needs-Responsivity (RNR) model proposed by Andrews and Bonta (2010) in an effort to improve desistence and reduce recidivism. It is important to note, however, that when intelligence was controlled for by Jolliffe and Farrington (2004), the correlation between empathy and offending behaviour was reduced, and when socioeconomic status was included in the analysis, the significant relationship was completely diminished.

Decline of Empathy in Health Care

Although low empathy has been correlated to higher levels of deviance and antisocial behaviour, some researchers argue decreased emotional empathy can be considered a protective factor in some contexts. For example, Yarascavitch et al. (2009) examined cognitive and emotional empathy among a sample of 178 Canadian dentistry students across four years of study. In the empathy measures they used, they altered the items to distinguish between feeling empathy at work with patients versus in their personal life with family, friends, and strangers. Yarascavitch et al. found that emotional empathy in the dentistry students' professional lives decreased throughout years of training, while both types of personal empathy remained stable over time. The authors described that by decreasing emotional empathy in their professional lives, a dentist or other healthcare professional can prevent burnout, be

objective in decisions and behaviours, and more effectively do their work, as they are not distracted or overwhelmed by vicarious emotional distress. For example, a surgical doctor conducting a particularly painful procedure should not manifest the emotions of the patient through expressions such as grimacing, or behaviours such as crying.

Hojat, Vergare, Maxwell, Brainard, and Herine (2009), Nunes, Williams, Sa, and Stevenson (2011), and Ward, Cody, Schaal, & Hojat (2012) also found empathy decreasing as health care providers advanced in their education or practice. Nunes et al (2011) revealed students in five health care faculties experienced a decrease in empathy throughout their first year of education, with significant decreases among medical, nursing, and dentistry students, while veterinary and pharmacy students experienced empathy degeneration that was not significant. Hojat et al. (2009) found that in their samples of medical students, the third year of study showed the greatest decline in empathy compared to each of the other years, but each year showed a steady reduction in empathy scores. Finally, Ward and colleagues (2012) found nursing students had a significant decline in empathy over the course of one academic year. This decrease was significantly more pronounced among students with more clinical hours and exposure to patients.

Attenuation of empathy in clinical settings might be an appropriate approach to practicing in healthcare and may be a result of a professional persona developing (Yarascavitch et al). Alternatively, Morice-Ramat et al. (2018) found that empathy positively predicted resilience, and among a group of medical residents, the decline in empathy negatively impacted the residents' resilience, making them vulnerable to professional burnout. Thus, despite the challenging and draining work health care professionals do, a certain level of empathy is important (Hojat et al., 2013), so interventions in education and workshops or professional development courses for health care professionals might be important to maintain empathy and resilience among this community (Morice-Ramat et al., 2018). It has been established that responding empathically to patient's concerns improves patient satisfaction (Hojat et al., 2013) and clinical outcomes (Del Canale et al., 2012; Hojat et al., 2011). Ward and colleagues (2012) suggested a number of reasons for the decrease in empathy seen among health care professionals, most of which were negative experiences, including challenging patients, negative work environments and colleagues, high pressure with limited time, and high risk if the individual makes a mistake.

Improving

Brooks and Goldstein (2008) wrote a paper detailing how educators can foster resilience in their students. The authors laid out a number of ways to invoke conversation and thoughtfulness about how empathy plays a role in the classroom and in promoting resilience. Brooks and Goldstein (2008) suggest asking some hypothetical questions for the educators to consider. They suggest the teachers ask themselves if they would want to be treated the way

they treated their student and ask themselves if the way they phrased their criticism was constructive. For example, telling a student to "try harder" to motivate him or her might feel encouraging to the teacher, but to the student it may feel like the teacher is implying he or she is not trying at all, when he or she is trying very hard. Asking the teachers to consider how they would feel if the principal told them to try harder if they weren't reaching their goals is a useful tactic to encourage teachers to speak more empathically to their students to promote success and resilience in class. The authors also suggested the teachers consider how they would like students to describe them, consider what they have done in the past month to have students describe them in this way, and how they think the students are actually describing them. This forces the teachers to empathize with the students, seeing the classroom from their perspective, and encouraging the teachers to behave more empathically.

Interventions

Empathy is a skill that can be developed through learning and practicing (Heyes, 2018; Keef, 1976; Kiosses, Karathanos, & Tatsioni, 2016). In fact, Heyes (2018) argues that empathy is largely learned and is not an intrinsic quality. It can be improved and developed but can also be broken. The following interventions provide some methods of improving or developing empathy.

Mindfulness

Winning and Boag (2015) examined the effects of a brief mindfulness intervention on levels of both cognitive and emotional empathy of 91 first year university students and 11 members of the public (n = 102) as measured by the Multifaceted Empathy Test (MET; Dziobek et al., 2008). As part of the double-blind design, participants were randomly allocated to the experimental condition, labelled the "Mindfulness Induction" condition (n = 50) or the control condition, labelled the "Mind Wandering Induction" (n = 52).

In the Mindfulness Induction condition, participants were asked to listen to an audio recording produced by Hafenbrack, Kinias, and Barsade (2014) which featured a guided meditation based in mindfulness for 15 minutes. In the Mind Wandering Induction condition, participants listened to a 15-minute audio recording developed, again, by Hafenbrack et al. (2014) using the same voice as heard in the Mindfulness condition. In the Mind Wandering condition, the recording asked participants to follow their thoughts, rather than guiding them in a mindfulness-based meditation. The purpose of the recording is to control for the listening aspect of the experiment and the impacts of the voice in the recording while allowing the participant to continue having regular thoughts, as they would have in a normal state. The authors found the intervention effective in improving cognitive and emotional empathy scores, with a moderation effect of conscientiousness and extraversion. The intervention was most successful in improving cognitive empathy among those with lower conscientiousness and extraversion scores.

Dean and colleagues (2017) implemented a 12-week mindfulness program among a sample of healthcare students who completed the Jefferson Scale Empathy – Health Profession Students' version (JSE-HPS) pre- and post-intervention. The meditation teachers who ran the class focussed mostly on engendering empathy among the students through mindful awareness. The first class was an educational two-hour session explaining mindfulness and the evidence backing the concept. Each session began with learning and practicing mindfulness techniques for 15-20 minutes, then a group discussion about the experiences and how they can be used in practice. For example, in the first session, the students were taught body-scan meditations and breathing exercises. There was a significant increase in empathy as measured by the JSE-HPS, showing that a structured 12-week program with an emphasis on engendering empathy through mindfulness can be successful.

Reflective Writing

Misra-Hebert et al. (2012) conducted a pilot study using reflective writing to improve empathy and reflection with 40 practicing physicians in Cleveland. Twenty physicians participated in a six-session program in which they were asked to read course material and write reflective journal entries. Ten physicians were in a control group in which they received the reading material, but did not receive the guided course sessions, while the remaining 10 did not receive the reading or the course sessions. The Jefferson Scale of Empathy, which is an empathy scale specifically designed for use with health care providers, was administered throughout the testing period. The empathy described in this study was predominantly cognitive empathy, and Misra-Hebert et al. (2012) postulated that improvement of self-awareness via reflection would enrich empathy among the physicians.

Participants who were asked to attend sessions were broken out into small groups of four or five with one group leader assigned to each group. During the first three sessions, physicians were introduced to reflective writing, then taught about how patients experience pain and suffering, and finally how to be empathic despite potential cultural barriers. In the following three sessions, participants were provided with literature regarding empathic understanding and communication, and how mindfulness can be used to improve quality of care and empathy. The first and last session were each four hours, while sessions two to five were two hours each during which participants were asked to reflectively write about the literature provided. Participants received reading materials prior to sessions two through six and were asked to write reflectively on the pieces following a prompt provided. The additional reflective writing exercises were for personal benefit, but the participants had the opportunity to submit them if they felt inclined so the authors could investigate themes additional to the ones found in the in-class reflective pieces.

Provided below is a brief description of the sessions and the writing prompt participants were provided with:

1. Reflective writing introduction, how reflective writing can be used as a method of increasing empathy.
    a. Writing prompt: Think about a time when it was a challenge to be empathic.
2. How patients experience suffering.
    a. Writing prompts: a) Reflect on any experience you have had that gave you insight into patient suffering. b) Think about how you can honor the patient experience during bedside teaching.
3. Empathy across cultural barriers.
    a. Writing prompt: a) Reflect upon a time when you felt different from others. b) Write about an experience with a patient when you had difficulty communicating across cultural barriers. Did you recognize personal bias in the encounter?
4. Literature as a vehicle to increasing empathy (readers theatre).
    a. Writing prompt: Choose a literary piece that resonated with you and write about why. (Writings compiled into a reader's theatre and read aloud during session).
5. Empathic communication of treatment plans: Health literacy.
    a. Writing prompt: Write about a situation where limited health literacy affected the care of a patient. Option of using the "voice of the patient".
6. Using empathy as a tool to improve quality of health care.
    a. Writing prompt: Write about a situation when having been mindful seemed to have helped you prevent an error.

Mira-Hebert et al. (2012) found themes of compassionate solidarity and detached concern in the reflective writing pieces. The authors concluded programs that encourage and teach reflective writing skills can enhance empathy among physicians and may also generalize to trainees and preceptors during physician education, fostering a more empathic approach to health care.

Training Modules (Role Playing, Behaviour Assay, Reflective Writing)

Bas-Sarmiento, Fernández-Gutiérrez, Baena-Baños, and Romero-Sánchez (2017) conducted a quasi-experimental study aimed at improving empathy skills among a group of nursing students. Participants attended 10 two-hour training sessions in which they learned about empathy, participated in role-playing, behaviour assay, reflective writing, and a flipped classroom. Participants were measured on their empathy pre-test, post-test, and again at a follow-up time one-month post-training. Participants responded to self-report questionnaires but were also evaluated by three external observers. The first few sessions taught participants about communication and relationships, during which they participated in role play, and later sessions involved learning about empathy during clinical tasks such as interviews and delivering bad news, during which they both participated in role play and also watched videos of non-empathic nurses and evaluated the nurses in the film. See Appendix A for a detailed description of each session.

Bas-Sarmiento and colleagues (2017) found the training was effective in significantly improving both self-reported empathy and empathy as evaluated by external observers at post-test and follow-up one month later, showing the impacts of the training was not only immediate but lasts at least one month following completion. The authors felt a follow-up measure was important to investigate whether the results of the intervention were long-lasting, as there are propositions in other studies that empathy can diminish over time (González-Serna, Serrano, Martín, & Fernández, 2014; Hojat et al., 2009; Nunes et al., 2011; Yarascavitch et al., 2009). A limitation with this study is that many different interventions were employed, so it is impossible to know which intervention actually improved empathy. Given most interventions are intended to be brief but long-lasting it would be important in future assessments to examine this experimentally with different groups and controls.

Examples, Lectures, and Discussion

Hojat, Axelrod, Spandorfer, and Mangione (2013) conducted a two-phase intervention among a sample of 248 medical students. Phase 1 involved viewing films, while in Phase 2, participants attended a lecture. Students were randomly assigned to either an experimental group (n = 129) or a control group (n = 119). Phase 2 was conducted 10-weeks after Phase 1, and the experimenters administered the Jefferson Scale Empathy before and after each phase, for a total of four assessments.

In Phase 1, the students in the experimental group were asked to watch a series of 22 video clips exhibiting patient-physician encounters selected from three movies. The clips were selected because they had both positive and negative doctor-patient interactions. The movies included The Doctor (5 clips), First Do No Harm (8 clips, and Wit (9 clips). Following each clip, participants were encouraged to discuss their thoughts about the clip and reflect on positive and negative behaviours depicted in the clips. In the control group, participants watched a film documenting medical history, called The Great Fever.

For Phase 2, participants were to attend a lecture that either reinforced the vital nature of empathy in medicine, which was followed by a class discussion (reinforced group), or watched a movie about medicine in the 1940s which touched on racism in medicine (non-reinforced group). The experimental group from Phase 1 was divided into two, with half of the group attending the lecture on empathy and the second half of the group watching the movie with the original control group.

Hojat and colleagues (2013) found participants in the experimental group experienced a statistically significant increase in empathy scores following the study, and no significant difference in scores among participants in the control group before and after the film in Phase 1. In Phase 2, the researchers found the reinforced group retained the significant increase in empathy scores following the lecture in Phase 2, alternatively, the non-reinforced group empathy scores returned to baseline in the post-test following the film in Phase 2.

Hojat et al. (2013) contend that the increase in empathy is susceptible to dissipation and must be reinforced in order to be sustainable. The results of the study do show, however, that empathy can be learned through educational programming, which may be fairly simple to incorporate into lectures throughout student education.

Although a fairly strong study, I think the choice of Something the Lord Made was not the best choice because it depicts anti-black racism in medicine, a topic that could bring out strong emotions and empathy for black people which could sway the results.

Systematic Review of Interventions among Physicians

Kelm, Womer, Walter, and Feudtner (2014) conducted a systematic review of interventions intended to cultivate empathy among physicians. Sixty-four articles met inclusion criteria and were distributed into three tiers based on whether there was a control group, random assignment, sample size, significant increase in empathy, heterogeneity of the source populations, and reliability and validity of the measure used. Studies allocated into Tier 1 were heterogeneous, often included communication skills, role playing, and motivational interviewing, and had follow-up testing. Those allocated into Tier 2 were not as rigorous as Tier 1. For example, some were randomized, controlled interventions, but used measures that were reliable but not valid, while some used controlled interventions without randomly assigning participants but did use psychometrically sound measures. Most studies were allocated into Tier 3 (70%), and these study designs that fit the inclusion criteria but did not meet the criteria mentioned for Tier 1 and 2. Most interventions in the systematic review (66%) revealed interventions that significantly increased empathy among physicians, with 80% of studies in Tier 1 reporting significant increases in empathy.

More recently, Bas-Sarmiento and colleagues (2020) conducted a similar systematic review including 23 articles that conducted empathy interventions with samples of health care professionals or students. The review provided support to educational and experiential strategies, controlled trials, recognition of empathy as a multidimensional construct, and triangulating data (i.e., using self-report as well as patient/external observer ratings).

Assessments

There are many methods of measuring empathy, the easiest method being through self-report style questionnaires. Alternative methods include presenting a video or picture to a participant and assessing responses (e.g., Multifaceted Empathy Test; Dziobek et al., 2008), examining participants' behavioural responses to experimental stimulation, or facial responses or gestures during an interaction (Jolliffe & Farrington, 2004). The measures presented here are all self-report.

Interpersonal Reactivity Index (IRI; Davis, 1980)

Measures both cognitive and emotional empathy. The first attempt at measuring empathy with a multidimensional approach. A 28-item scale with four factors, on which participants respond using a five-point Likert scale, with 0 corresponding to "does not describe me well", and 4 corresponding to "Describes me very well". Scores range from 0 to 28 for each subscale (for a total of 0 to 112). See Appendix B for full scale.

Includes 4 subscales:

- The Fantasy Scale (FS) measures ability to and transpose oneself into different works of fiction (e.g., video games, movies, books; Males Standardized α = .78, M = 15.73, SD = 5.60; Females Standardized α = .75, M = 18.75, SD = 5.17)
    - e.g., "I really get involved with the feelings of the characters in a novel."
- Perspective-Taking scale (PT) measures the ability to adopt and comprehend the perspective of another person (Males Standardized α = .75, M = 16.78, SD = 4.72; Females Standardized α = .78, M = 17.96, SD = 4.85)
    - e.g., "I try to look at everybody's side of a disagreement before I make a decision."
- Empathic Concern scale (EC) measures the tendency to feel vicarious emotion when witnessing another person's emotional state (Males Standardized α = .72, M = 19.04, SD = 4.55; Females Standardized α = .70, M = 21.67, SD = 3.83)
    - e.g., "When I see someone being taken advantage of, I feel kind of protective toward them."
- Personal Distress scale (PD) measures the individual's own feelings about the situation such as apprehension, sadness, or discomfort (Males Standardized α = .78, M = 9.46, SD = 4.55; Females Standardized α = .78, M = 12.28, SD = 5.01)
    - e.g., "When I see someone get hurt, I tend to remain calm"

The authors found each of the scales to have good internal reliability for both males and females, as shown by the Standardized α shown above. Test-retest reliability was satisfactory for both males (r = .61 to .79) and females (r = .62 to .81) with the lowest test-retest reliability found for the PT scale for both sexes, and highest in the FS.

Some researchers have expressed criticism towards the use of the IRI to measure empathy. For example, Jolliffe and Farrington (2004, 2006) suggest that some of the items on the Perspective Taking subscale are not measuring empathic perspective taking, but simply the broad concept of understanding the perspective of another person. They cite item 25 as support for this suggestion, which reads, "When I am upset at someone, I usually try to put myself in his shoes for a while." Additionally, a concern that is common among measures of empathy, Jolliffe and Farrington (2004, 2006) believe that the Empathic Concern subscale may be measuring aspects of sympathy as well. Finally, the Fantasy Scale happens to be very controversial as well, with many researchers opting to exclude the scale altogether from their studies (Nomura & Akai, 2012; Reiners et al., 2011; Su, Lee, Ding, & Comer, 2005).

Questionnaire Measure of Emotional Empathy (QMEE; Mehrabian & Epstein, 1972)

Measures emotional empathy. Participants respond on a scale ranging from -4 (very strong disagreement) to +4 (very strong agreement). Scores range from -132 to +132, with a mean score of 23 (SD = 22) for males and 44 (SD = 21) for females. See Appendix C for full scale.

Subscales include:

- Susceptibility to Emotional Contagion
    - e.g., "The people around me have a great influence on my moods"
- Appreciation of the Feelings of Unfamiliar and Distant Others
    - e.g., "Lonely people are probably unfriendly"
- Extreme Emotional Responsiveness
    - e.g., "Sometimes the words of a love song can move me deeply"
- Tendency to be Moved by Others' Positive Emotional Experiences
    - e.g., "I like to watch people open presents"
- Tendency to be Moved by Others' Negative Emotional Experiences
    - e.g., "Seeing people cry upsets me"
- Sympathetic Tendency
    - e.g., "It is hard for me to see how some things upset people so much"
- Willingness to be in Contact with Others who have Problems
    - e.g., "I would rather be a social worker than work in a job training centre"

All subscale intercorrelations are significant at the .01 level. Split-half reliability for the QMEE is 0.84, and there is not a significant correlation between the QMEE and the Marlowe Crowne Social Desirability Scale indicating respondents' choices would be unlikely to be influenced by social desirability.

Jolliffe and Farrington (2006) criticize this scale, as they suggest the items are measuring sympathy rather than empathy. Additionally, the measure was developed and validated with a sample of university students, so it is not generalizable.

Empathy Quotient (EQ; Baron-Cohen, Richler, Bisarya, Gurunathan, & Wheelwright, 2003)

The EQ is a 60-item scale with 40 items tapping into empathy, while the remaining 20 items are filler questions to draw the respondent's attention away from the heavy focus on empathy. The authors chose not to separate the items discerning cognitive empathy from those measuring emotional empathy, and they believe in most occasions of empathy, both cognitive and emotional resources are drawn from. This resulted in the measure having no subscales. See Appendix D for full scale.

Participants respond on a 4-point Likert scale with 1 corresponding to "Strongly Agree" and 4 corresponding to "Strongly Disagree" creating a forced-choice response. Nineteen of the items were reverse coded. Scores range from 0 to 120.

The scale was originally developed for use with individuals who have Asperger's syndrome or autism, with participants from that group scoring lower than those of the general population (M = 20.4, SD = 11.6). Among the control group (i.e., the general/non-clinical population) the mean score was 42.1 (SD = 10.6). Test-retest reliability was r = 0.97, p < .001. The EQ has been validated among the general population as well (Lawrence, Shaw, Baker, Baron-Cohen, & David, 2004). The second validation among the non-clinical population revealed high test-retest reliability (r = 0.835, p < .001). The authors also revealed a three-factor structure using a principal components analysis, but the factors were significantly correlated so there was not discriminant validity.

Muncer and Ling (2006), conducted a confirmatory factor analysis and found that the three-factor model put forward by Lawrence et al. (2004) is actually a more appropriate fit than the unifactorial model suggested by Baron-Cohen et al. (2003). The authors caution against using the short form until it has been examined further and validated, as this was an exploratory task and needs confirmation.

The three factors Muncer and Ling (2006) found include:

- Cognitive Empathy
    - e.g., "I can tell if someone is masking their true emotion.
- Emotional Reactivity
    - e.g., "Seeing people cry does not really upset me".
- Social Skills
    - e.g., "I often find it difficult to judge if something is rude or polite".

Muncer and Ling found an acceptable Cronbach's alpha of .85 when looking at the 40 empathy items, but composed a 28 item scale comprising only the items mentioned as loading onto the three factors. When looking at the 28 items loaded onto the three factors, the Cronbach's alpha was .85, with each of the factors revealing acceptable Cronbach's alphas given the number of items per scale (cognitive scale n = 11, α = .84; emotional reactivity n = 11, α = .76; social skills n = 6, α = .57). Although the three-factor model is more appropriate, Muncer and Ling (2006) concluded that the EQ remains a valid measure of empathy.

Basic Empathy Scale (BES; Jolliffe & Farrington, 2006) & Basic Empathy Scale – Adult (BES-A; Carré et a., 2013)

The authors used the Cohen and Strayer's (1996) definition of empathy, "the understanding and sharing in another's emotional state or context" (p 523). The BES is a 20-item scale rated on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Scores range from 20 to 100, with females scoring significantly higher (M = 75.4, SD = 8.3) than males (M = 64.3, SD = 9.8; t = 16.1, p < .0001). See full scale in Appendix E.

The BES includes two factors:

- Cognitive Empathy: 9 items (Cronbach's α = .79)
    - e.g., "I can understand my friend's happiness when she/he does well at something."
    - Males (M = 32.2, SD = 5.8)
    - Females (M = 35.0, SD = 6.5)
- Emotional Empathy: 11 items (Cronbach's α = .85).
    - e.g., "After being with a friend who is sad about something, I usually feel sad."
    - Males (M = 32.1, SD = 6.5)
    - Females (M = 40.3, SD = 5.8)

The items were developed using four basic emotions: fear, sadness, anger, and happiness and the statements are The BES was validated on a group of students in grade 10, with a mean age of 14.8 (SD = 0.48). Test-retest r = .54-.70.

Carré et al. (2013) later validated the scale on a group of adults, and found it had good psychometric properties but argued there should be three factors rather than two, to include emotional disconnection, a self-protection mechanism by which an individual avoids extreme distress or emotional impact during a time of empathy. Carré et al. called the measure the Basic Empathy Scale – Adult. The items remained the same, aside from some loading on a third factor.

Carré et al. (2013) validated the BES-A in French on a group of 370 healthy adults (students, working adults, and retired adults) all of whom spoke French fluently. Sixty percent completed the scale twice, seven weeks apart, to examine test-retest reliability. Participants respond to the BES-A on a 5-point Likert scale, with 1 being "Strongly Disagree" and 5 being "Strongly Agree". Cronbach's alpha for cognitive empathy was good (α = .69), as was the Cronbach's alpha for both emotional empathy (α = .72) and emotional disconnection (α = .82). Test retest reliability was high in all three factors. Cognitive empathy had significant correlations, r = .56, r2 = .3118, p < .001, as did emotional empathy with correlations of r = .74, r2 = .5488, p < .001, and emotional disconnection, r = .70, r2 = .4761, p < .001.

Reiners et al. (2011) criticized the BES, as the definition used to create the measure was too broad and does not exclude traits related to, but separate from, empathy. Moreover, the authors suggest the confirmatory factor analysis was biased, as it was not independent from the sample used in the exploratory factor analysis. Finally, Reiners and colleagues (2011) believe the cut-off scores for the BES are too lenient.

Questionnaire of Cognitive and Affective Empathy (QCAE; Reniers, Corcoran, Drake, Shryane, & Völlm, 2011)

The QCAE measures both cognitive and emotional empathy. It is a 31-item, 5-factor scale, with participants responding on a Likert scale ranging from 1 ("Strongly Agree") to 4

("Strongly Disagree"). Cronbach's alphas ranged from questionable (Peripheral Responsivity) to good (Perspective Taking). Scores range from 31 to 124. See Appendix F for full scale.

The five factors represented on the scale are:

- Perspective Taking: ability to see a situation through someone else's eyes (Cognitive Empathy; α = .85)
    - e.g., "I can easily work out what another person might want to talk about.
- Emotion Contagion: unintentional, automatic act of mirroring the feelings of someone else (Emotional Empathy; α = .72)
    - e.g., "I am happy when I am with a cheerful group and sad when the others are glum."
- Online Simulation: an effortful endeavour to put oneself in another's shoes by actively imagining how that person might be feeling (Cognitive Empathy; α = .83)
    - e.g., "Before criticizing somebody, I try to imagine how I would feel if I was in their place."
- Peripheral Responsivity: affective response to emotions of others in a disconnected context (Emotional Empathy; α = .65)
    - e.g., "I usually stay emotionally detached when watching a film"
- Proximal Responsivity: affective response to emotions of others in close social proximity and context (Emotional Empathy; α = .70)
    - e.g., "It pains me to see young people in wheelchairs."

The QCAE did not differ significantly when comparing genders, so it is reliable across genders.

Jefferson Scale of Physician Empathy (JSE; Hojat et al., 2001)

The JSE measures levels of empathy among physicians specifically in their patient interactions. Both emotional and cognitive empathy are included in the scale. The JSE is a 20-item scale on which participants respond on a Likert-scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Three items are reverse scored. Scores range from 20 to 140, and the scale was developed with a sample of residents (M = 118, SD = 12) and students (M = 118, SD = 11). The alpha reliability was acceptable for both residents (α = .87) and for students (α = .89). See Appendix F for the full scale.

The JES comprises of four factors:

- Physician's view from patient's perspective: 10 items
    - e.g., "A physician who is able to view things from another person's perspective can render better care."
- Understanding patient's experiences, feelings, and clues: 5 items

    - "A patient who feels understood can experience a sense of validation that is therapeutic in its own right."
- Ignoring emotions in patient care: 2 items, both reverse scored.
    - "Because people are different, it is almost impossible for physicians to see things from their patients' perspectives."
- Thinking like the patient: 2 items. Authors specify this factor means thinking like the patient as opposed to becoming emotional during patient care.
    - "The best way to take care of a patient is to think like a patient".
- One item did not load high enough on any factor but was retained with what seems to be no rationale.

Hojat and colleagues (2001) acknowledge that having fewer than three items loaded on a factor means the factor lacks stability but maintain the four factors are representative of the multidimensional concept of empathy. Factor 1 is the most reliable, but the scale as a whole is robust.

Additional Scales with Comments

Balanced Emotional Empathy Scale (BEES; Mehrabian, 2000)

- Must contact the author to receive a copy of the scale and permission to use it.

Hogan Empathy Scale (HES; Hogan, 1969)

- Made up of various items from the scales previously described.

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Appendix A: Training Modules

Bas-Sarmiento, Fernández-Gutiérrez, Baena-Baños, & Romero-Sánchez (2017)

Table 1
Description of the intervention.

Session	Title duration	Objectives	Procedures	Previous session material/homework
Pretest	Pretest: 15 min		Simulated clinical interviews: Each student was offered three opportunities to be empathic	
1	Non-verbal Communication 2 h	• Assess the importance of non-verbal communication in the care relationship, the elements involved, and their use. • Identify emotions.	• Video and analysis of the elements of nonverbal communication in a situation of social interaction. • Practice: pairs of students, through the use of non-verbal communication, show different expressions and identify them, exchanging roles.	**Previous documentation contents:** The patient as a sender and receiver of non-verbal communication; molecular and paralinguistic elements; incongruity between verbal and non-verbal communication; influence on care practice.
2 3	Basic Communication Tools for Establishing a Helping Relationship 2 h/session	• Identify empathy and active listening as two key elements in the helping relationship. • Differentiate between empathy, sympathy/ emotional involvement, and projection. • Describe and identify the various levels of the Carkhuff scale.	• Video of healthcare scenes in which the behaviors of the patient are visualized and reflection is invited with the idea that the student can put himself/herself in the patient's place. • Distinguish concrete cases between empathy and emotional involvement. • Exercise "put yourself in my place": in pairs. One of the partners is given a configured puzzle, while the other has the pieces in disorder. The student who has the information (sender) tells the partner (receiver) the steps that must be performed to order the pieces. This activity has the added difficulty that there are pieces of different colors and orientations (right and left inverted). Summary of what is observed and identification of problems that appear when the sender does not empathize and the difficulties involved in not having any reference. A simile is made regarding the health personnel-patient relationship. • Identification of the level of empathy achieved on the proposed scale in a health personnel-patient interaction. • Behavior assay: reiteration, elucidation, and/or reflection of the sentiment.	**Previous documentation contents:** Importance of the care relationship in health professionals; the helping relationship as a facilitating relationship; basic tools to establish a relationship of care (empathy, active listening, summarizing, asking questions, reinforcing, confronting…). Carkhuff Scale. **Homework:** Individual analysis of the level of empathy achieved (based on the proposed scale) in the simulated pre-training interview conducted at the beginning of the course; analysis of non-verbal communication, his/her own and that of the patient; conduct an alternative dialogue taking into account the theory provided.
4 5	Promoting empathetic nurse-patient relationship. 2 h/session	• Achieve at least a level 3 on the Carkhuff scale in a simulated situation.	Video of a clinical interview in which the nurse does not empathize. Following the technique of problem-based learning, the students must recognize the mistakes made in communication and assess the nurse's empathy, rewrite the correct dialogue, and rehearse by role-playing. Feedback is offered to the students. At the end of the session, a coping model video (made by the students in a way that favors the modeling) is shown.	
6	Assertiveness 2 h	• Favor an assertive style of communication. • Identify the importance of empathy in assertive opposition.	Training in acceptance and assertive opposition: behavior assay of techniques for facing criticism and handling negative emotions.	**Previous documentation contents:** Assertiveness, expression of a healthy self-esteem (Castanyer, 2014). **Homework:** Activities proposed in the book.
7 8	Clinical interview 2 h/session	• Receive the patient, make an appropriate first contact. • Define the reasons for the consultation and negotiate the contents of the visit. • Provide specific clinical information. • Check the comprehension of the information. • Show availability. • React to the emotions that the patient shows, understand them, and return their cognitive and emotional content.	In groups, express the nature of the problem of a chronic pathology using a simile to make the information more understandable to the patient and raise the rationality of the therapeutic measures. Behavior assay and role-playing.	**Previous documentation contents:** First contact and data collection; informing skills (nature of the problem and rationality of the therapeutic measure); negotiating skills.
9 10	Bad news. Buckman Protocol 2 h/session	• Describe and give examples of the stages of the Buckman protocol. • Represent the different stages.	The students, in groups of five, elaborate the six stages of the Buckman protocol, starting from one case. Representation through role-playing and feedback of their performance.	**Previous documentation contents:** How to break bad news. A guide for health care professionals (Buckman, 1992). SPIKES-A six-step protocol for delivering bad news: application to the patient with cancer (Baile et al., 2000).
Postest	Postest: 15 min		Simulated clinical interviews: Each student was offered three opportunities to be empathic	
Follow up	15 min		Structed Objective Evaluation of Nursing Competencies	

Appendix B: Interpersonal Reactivity Index

Davis (1980)

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: 0, 1, 2, 3, or 4. When you have decided on your answer, fill in the number next to the item number. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

1. I daydream and fantasize, with some regularity, about things that might happen to me.
2. I often have tender, concerned feelings for people less fortunate than me.
3. I sometimes find it difficult to see things from the "other guy's" point of view. (R)
4. Sometimes I don't feel sorry for other people when they are having problems. (R)
5. I really get involved with the feelings of the characters in a novel.
6. In emergency situations, I feel apprehensive and ill-at-ease.
7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it. (R)
8. I try to look at everybody's side of a disagreement before I make a decision.
9. When I see someone being taken advantage of, I feel kind of protective toward them.
10. I sometimes feel helpless when I am in the middle of a very emotional situation.
11. I sometimes try to understand my friends better by imagining how things look from their perspective.
12. Becoming extremely involved in a good book or movie is somewhat rare for me. (R)
13. When I see someone get hurt, I tend to remain calm. (R)
14. Other people's misfortunes do not usually disturb me a great deal. (R)
15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (R)
16. After seeing a play or movie, I have felt as though I were one of the characters.
17. Being in a tense emotional situation scares me.
18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (R)
19. I am usually pretty effective in dealing with emergencies. (R)
20. I am often quite touched by things that I see happen.
21. I believe that there are two sides to every question and try to look at them both.
22. I would describe myself as a pretty soft-hearted person.
23. When I watch a good movie, I can very easily put myself in the place of a leading character.
24. I tend to lose control during emergencies.

25. When I am upset at someone, I usually try to “put myself in his shoes” for a while.
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.
27. When I see someone who badly needs help in an emergency, I go to pieces.
28. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

Fantasy Scale (FS): 1, 5, 7, 12, 16, 23, 26

Empathic Concern (EC): 2, 4, 9, 14, 18, 20, 22

Perspective Taking (PT): 3, 8, 11, 15, 21, 25, 28

Personal Distress (PD): 6, 10, 13, 17, 19, 24, 27

Scores range from 0 to 112. To score the scale, add up the scores for each item.

Appendix C: Questionnaire Measure of Emotional Empathy

Mehrabian & Epstein (1972)

Participants respond on a scale ranging from -4 (very strong disagreement) to +4 (very strong agreement).

1. It makes me sad to see a lonely stranger in a group.
2. People make too much of the feelings and sensitivity of animals. (R)
3. I often find public displays of affection annoying. (R)
4. I am annoyed by unhappy people who are just sorry for themselves. (R)
5. I become nervous if others around me seem to be nervous.
6. I find it silly for people to cry out of happiness. (R)
7. I tend to get emotionally involved with a friend's problems.
8. Sometimes the words of a love song can move me deeply.
9. I tend to lose control when I am bringing bad news to people.
10. The people around me have a great influence on my moods.
11. Most foreigners I have met seemed cool and unemotional. (R)
12. I would rather be a social worker than work in a job training centre.
13. I don't get upset just because a friend is acting upset. (R)
14. I like to watch people open presents.
15. Lonely people are probably unfriendly. (R)
16. Seeing people cry upsets me.
17. Some songs make me happy.
18. I get really involved with the feelings of the characters in a novel.
19. I get very angry when I see someone being ill-treated.
20. I am able to remain calm even though those around me worry. (R)
21. When a friend starts to talk about his problems, I try to steer the conversation to something else. (R)
22. Another's laughter is not catching for me. (R)
23. Sometimes at the movies I am amused by the amount of crying and sniffling around me. (R)
24. I am able to make decisions without being influenced by people's feelings. (R)
25. I cannot continue to feel okay if people around me are depressed.
26. It is hard for me to see how some things upset people so much. (R)
27. I am very upset when I see an animal in pain.
28. Becoming involved in books or movies is a little silly. (R)
29. It upsets me to see helpless old people.
30. I become more irritated than sympathetic when I see someone's tears. (R)
31. I become very involved when I watch a movie.
32. I often find that I can remain cool in spite of the excitement around me. (R)

33. Little children sometimes cry for no apparent reason. (R)

To score the QMEE, reverse score the indicated items (R) and sum the responses. Scores range from -132 to +132

Appendix D: Empathy Quotient

Baron-Cohen et al. (2003)

Participants respond on a scale of 1 (Strongly Agree) to 4 (Strongly Disagree).

1. I can easily tell if someone wants to enter a conversation.
2. I prefer animals to humans. (F)
3. I try to keep up with the current trends and fashions. (F)
4. I find it difficult to explain to others things that I understand easily, when they don't understand it the first time. (R)
5. I dream most nights. (F)
6. I really enjoy caring for other people.
7. I try to solve my own problems rather than discussing them with others. (F)
8. I find it hard to know what to do in a social situation. (R)
9. I am at my best first thing in the morning. (F)
10. People often tell me that I went too far in driving my point home in a discussion. (R)
11. It doesn't bother me too much if I am late meeting a friend. (R)
12. Friendships and relationships are just too difficult, so I tend not to bother with them. (R)
13. I would never break a law, no matter how minor. (F)
14. I often find it difficult to judge if something is rude or polite. (R)
15. In a conversation, I tend to focus on my own thoughts rather than on what my listener might be thinking. (R)
16. I prefer practical jokes to verbal humor. (F)
17. I live life for today rather than the future. (F)
18. When I was a child, I enjoyed cutting up worms to see what would happen. (R)
19. I can pick up quickly if someone says one thing but means another.
20. I tend to have very strong opinions about morality. (F)
21. It is hard for me to see why some things upset people so much. (R)
22. I find it easy to put myself in somebody else's shoes.
23. I think that good manners are the most important thing a parent can teach their child. (F)
24. I like to do things spur of the moment. (F)
25. I am good at predicting how someone will feel.
26. I am quick to spot when someone in a group is feeling awkward or uncomfortable.
27. If I say something that someone else is offended by, I think that that's their problem, not mine. (R)
28. If anyone asked me if I liked their haircut, I would reply truthfully, even if I didn't like it. (R)
29. I can't always see why someone should have felt offended by a remark. (R)
30. People often tell me that I am very unpredictable. (F)

31. I enjoy being the centre of attention at any social gathering. (F)
32. Seeing people cry doesn't really upset me. (R)
33. I enjoy having discussions about politics. (F)
34. I am very blunt, which some people take to be rudeness, even though this is unintentional. (R)
35. I don't tend to find social situations confusing.
36. Other people tell me I am good at understanding how they are feeling and what they are thinking.
37. When I talk to people, I tend to talk about their experiences rather than my own.
38. It upsets me to see an animal in pain.
39. I am able to make decisions without being influenced by people's feelings. (R)
40. I can't relax until I have done everything I had planned to do that day. (F)
41. I can easily tell if someone else is interested or bored with what I am saying.
42. I get upset if I see people suffering on news programmes.
43. Friends usually talk to me about their problems as they say that I am very understanding.
44. I can sense if I am intruding, even if the other person doesn't tell me.
45. I often start new hobbies but quickly become bored with them and move on to something else. (F)
46. People sometimes tell me that I have gone too far with teasing. (R)
47. I would be too nervous to go on a big rollercoaster. (F)
48. Other people often say that I am insensitive, though I don't always see why. (R)
49. If I see a stranger in a group, I think that it is up to them to make an effort to join in. (R)
50. I usually stay emotionally detached when watching a film. (R)
51. I like to be organized in day-to-day life and often make lists of the chores I have to do. (F)
52. I can tune into how someone else feels rapidly and intuitively.
53. I don't like to take risks. (F)
54. I can easily work out what another person might want to talk about.
55. I can tell if someone is masking their true emotion.
56. Before making a decision I always weigh up the pros and cons. (F)
57. I don't consciously work out the rules of social situations.
58. I am good at predicting what someone will do.
59. I tend to get emotionally involved with a friend's problems.
60. I can usually appreciate the other person's viewpoint even if I don't agree with it.

To score the EQ, reverse code the indicated items (R), and each rating of "Strongly Agree" receives 2 points, each rating of "Slightly Agree" receives 1 point, and all other responses receive 0 points. Filler questions (as denoted by "(F)") do not receive any scores.

Appendix E: Basic Empathy Scale

Jolliffe & Farrington (2006)

Participants respond on a scale of 1 (strongly disagree) to 5 (strongly agree).

1. My friends' emotions don't affect me much. (R)
2. After being with a friend who is sad about something, I usually feel sad.
3. I can understand my friend's happiness when she/he does well at something.
4. I get frightened when I watch characters in a good scary movie.
5. I get caught up in other people's feelings easily.
6. I find it hard to know when my friends are frightened. (R)
7. I don't become sad when I see other people crying. (R)
8. Other people's feelings don't bother me at all. (R)
9. When someone is feeling 'down' I can usually understand how they feel.
10. I can usually work out when my friends are scared.
11. I often become sad when watching sad things on TV or in films.
12. I can often understand how people are feelings even before they tell me.
13. Seeing a person who has been angered has no effect on my feelings. (R)
14. I can usually work out when people are cheerful.
15. I tend to feel scared when I am with friends who are afraid.
16. I can usually realize quickly when a friend is angry.
17. I often get swept up in my friends' feelings.
18. My friend's unhappiness doesn't make me feel anything.
19. I am not usually aware of my friends' feelings.
20. I have trouble figuring out when my friends are happy.

Emotional: 1, 2, 4, 5, 7, 8, 11, 13, 15, 17, 18

Cognitive: 3, 6, 9, 10, 12, 14, 16, 19, 20

To score the BES, reverse score the indicated items and sum the scores. Scores range from 20 to 100.

Appendix F: Questionnaire of Cognitive and Affective Empathy

Reiners et al. (2011)

Items are rated on level agreement using a 4-point Likert scale with the following response options: 4 (strongly agree), 3 (slightly agree), 2 (slightly disagree) and 1 (strongly disagree).

1. I sometimes find it difficult to see things from the “other guy’s” point of view. (R)
2. I am usually objective when I watch a film or play, and I don’t often get completely caught up in it. (R)
3. I try to look at everybody’s side of a disagreement before I make a decision.
4. I sometimes try to understand my friends better by imagining how things look from their perspective.
5. When I am upset at someone, I usually try to “put myself in his shoes” for a while.
6. Before criticizing somebody, I try to imagine how I would feel if I was in their place.
7. I often get emotionally involved with my friends’ problems.
8. I am inclined to get nervous when others around me seem to be nervous.
9. People I am with have a strong influence on my mood.
10. It affects me very much when one of my friends seems upset.
11. I often get deeply involved with the feelings of a character in a film, play, or novel.
12. I get very upset when I see someone cry.
13. I am happy when I am with a cheerful group and sad when the others are glum.
14. It worries me when others are worrying and panicky.
15. I can easily tell if someone else wants to enter a conversation.
16. I can pick up quickly if someone says one thing but means another.
17. It is hard for me to see why some things upset people so much. (R)
18. I find it easy to put myself in somebody else’s shoes.
19. I am good at predicting how someone will feel.
20. I am quick to spot when someone in a group is feeling awkward or uncomfortable.
21. Other people tell me I am good at understanding how they are feeling and what they are thinking.
22. I can easily tell if someone else is interested or bored with what I am saying.
23. Friends talk to me about their problems as they say that I am very understanding.
24. I can sense if I am intruding, even if the other person does not tell me.
25. I can easily work out what another person might want to talk about.
26. I can tell if someone is masking their true emotion.
27. I am good at predicting what someone will do.
28. I can usually appreciate the other person’s viewpoint, even if I do not agree with it.
29. I usually stay emotionally detached when watching a film. (R)
30. I always try to consider the other fellow’s feelings before I do something.
31. Before I do something I try to consider how my friends will react to it.

Cognitive empathy (2 subscales)

Perspective Taking: 15, 16, 19, 20, 21, 22, 24, 25, 26, 27

Online Simulation: 1, 3, 4, 5, 6, 18, 28, 30, 31

Emotional Empathy

Emotion Contagion: 8, 9, 13, 14

Proximal Responsivity: 7, 10, 12, 23

Peripheral Responsivity: 2, 11, 17, 29

Sum the subscales for each of the 5 subscale scores. Sum the two cognitive subscales to find the Cognitive Empathy scale score, and sum the three emotional empathy subscales to find the Emotional Empathy scores. Sum the Cognitive Empathy and Emotional Empathy scores for a total empathy score.

Appendix G: Jefferson Scale of Physician Empathy

Hojat et al. (2011)

Participants respond on a scale ranging from 1 (strongly disagree) to 7 (strongly agree).

1. A physician who is able to view things from another person's perspective can render better care.
2. Physicians' sense of humor contributes to a better clinical outcome.
3. Physicians understanding of their patients' feelings and the feelings of their patients' families is a positive treatment factor.
4. For more effective treatment, physicians must be attentive to their patients' personal experiences.
5. Understanding body language is as important as verbal communication in physician-patient relationships.
6. Empathy is an important therapeutic factor in medical treatment.
7. Patients feel better when their feelings are understood by their physician.
8. Physicians' demonstration of understanding their patients' emotions is an important factor in interviewing and history taking.
9. Willingness to imagine oneself in another person's place contributes to providing quality care.
10. Patients' illness can be cured by only medical treatment; physicians' affectional ties with their patients do not have a significant place in this endeavor. (R)
11. What is going on in a patient's mind can often be expressed by nonverbal cues such as facial expressions or body language that must be carefully observed by physicians.
12. A patient who feels understood can experience a sense of validation that is therapeutic in its own right.
13. One important component of the successful physician-patient relationship is the physician's ability to understand the emotional status of his or her patients and their families.
14. It is important to ask patients about what is happening in their lives as it is to ask about their physical complaints.
15. It is acceptable for a physician to be touched by intense emotional relationships between patients and their families.
16. Reading nonmedical literature and enjoying the arts can enhance physicians' ability to render better care.
17. Because people are different, it is almost impossible for physicians to see things from their patients' perspectives. (R)
18. Emotion has no place in the treatment of medical illness. (R)
19. Empathy is a therapeutic skill without which the physician's success will be limited.
20. The best way to take care of a patient is to think like a patient.

To score the scale, reverse score the items denoted by (R), then sum the scores of each item.

R2

For more information about R2 or to discover how you can bring the program to your organization, business or educational setting, please contact us.

Paul McGuinness
Operations Manager

rrc@dal.ca
(902) 494-8482

Michael Ungar, PhD
Director

michael.ungar@dal.ca
(902) 229-0434

RRC - Evaluation and Training Institute