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LETTER

Teaching nonviolent communication to increase empathy between people and toward wildlife to promote human–wildlife coexistence

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Abstract

Promoting human–wildlife coexistence in complex systems where both relationships between people and toward wildlife need to be managed is challenging. We applied nonviolent communication (NVC) training as part of a participatory dialogue program to increase empathic concern toward wildlife and between people to promote human–wildlife coexistence. NVC was developed in the 1960s by Marshal Rosenberg, a clinical psychologist who sought to incorporate empathy and compassion into everyday language. Using weekly reflexive feedback from participants, we collected 36 examples of attitude change and 71 examples of behavior change that demonstrated increased empathic concern for both people and wildlife. Therefore, NVC training has potential to be an effective tool to increase empathy and promote tolerance and human–wildlife coexistence. This is the first attempt to use NVC in the biodiversity sector, and we believe these results show promise for its wider application as a tool for participatory dialogues to improve collaboration, understanding and resolve conflicts.

KEYWORDS

biodiversity conflicts, collaboration, communication, dialogues, empathy, engagement, human–wildlife conflict, Namibia, participation

1 | INTRODUCTION

Improving human–wildlife coexistence is a key challenge in many landscapes around the world (Redpath et al., 2013). Mixed-use landscapes outside protected areas are important for the future of many large mammals, especially carnivores and migrating herbivores, which require large areas to ensure their persistence (Ceballos et al., 2005; De Minin et al., 2016). Especially in these areas, the attitude and behavior of local communities toward wildlife therefore is central to human–wildlife coexistence. Although many variables have been examined as potential drivers of positive attitudes and behaviors toward wildlife (Kansky & Knight, 2014; Kansky et al., 2014), studies focusing on actual interventions to promote tolerance remain scarce (but see Slagel et al., 2013; Sponarski et al., 2016).

Both theoretical and empirical work to date suggests that empathy can be important in promoting proenvironmental behavior (Brown et al., 2019) and wildlife

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tolerance (Kansky et al., 2016; Kansky et al., 2021b; Marino, 2018; Shivji, 2018; Van Gelder, 2019) . However, practical tools to promote empathy have rarely been applied in the context of human–wildlife coexistence. To address this gap, we applied the tool of nonviolent communication (NVC) (Rosenberg, 2005) as part of a workshop dialogue series in conservancies in Namibia. Our goal was to assess to what extent training in NVC could improve empathy related attitudes and behaviors (i) toward wildlife, but also (ii) toward other stakeholders involved with wildlife. The latter is important because resolving human–wildlife conflicts is typically more complex than just promoting tolerance to wildlife (IUCN, 2020; Zimmerman et al., 2020). Multiple stakeholder relationships need to be managed (Young et al., 2016), including among diverse groups who have different perspectives, values and behavioral strategies that need to be carefully negotiated in order to avoid conflict.

Empathy as a concept has been studied across a wide variety of disciplines but conceptual clarity is still lacking with a recent review finding 43 distinct definitions (Cuffs et al., 2016). Despite this, there is general agreement that empathy is a multidimensional construct. An affective dimension includes an ability to feel what others feel, and a cognitive dimension includes an ability to understand others' internal states (Clark et al., 2019). A third dimension—behavioral empathy is recognized by some and includes behaviors that demonstrate empathy (cognitive or affective), for example, empathic communication (e.g., verbal expressions of understanding, asking questions about thoughts and feelings) (Clark et al., 2019). Other related concepts such as sympathy, emotional contagion, or compassion are sometimes included under a general conception of empathy (Cuff et, 2016). In our study, we define empathy to include all three dimensions: "an ability to perceive and be sensitive to the emotional states of others, which can be, but is not necessarily, coupled with a motivation to care for their wellbeing" (Decety et al., 2016).

NVC was developed by clinical psychologist Marshall Rosenberg in the 1960s (Rosenberg, 2005) and is primarily a communication tool for empathic connection with oneself and others to achieve more satisfying relationships. In NVC, four steps to achieve empathic connection are making observations without judgments, identifying feelings that are not thoughts, identifying *universal human needs* that are not strategies and, making requests that are not demands (Rosenberg, 2005; Tables 1 and Supporting Information). *Universal human needs* are understood as core requirements for human wellbeing (Jolibert et al., 2014; Max Neef et al., 1989; Tay & Diener, 2011; Vansteenkiste et al., 2020) and human behaviors are seen as strategies to meet these universal needs. Conflict, according to this logic, arises when one person or group uses strategies that threaten another's *universal human needs* or, the strategies used by different individuals or groups in an attempt to meet their needs are incompatible. To resolve conflicts, empathic connection can be achieved by understanding and acknowledging the universality of each other's human needs, which can result in the desire to find strategies that can meet as many needs as possible. For a more thorough description of NVC and its potential use in conservation, see Williams et al., 2021.

NVC has been applied in a wide range of contexts including in schools, businesses, health care centers, prisons, community groups, and families (Burleson et al., 2011; Juncadella, 2013)—but to date, to the best of our knowledge has not been applied in the environmental, wildlife or sustainability sector. Examples of positive outcomes of training in diverse settings include respectful discussions on a polarizing topic in a classroom setting (Koopman & Seliga, 2021), growth in empathy, confidence, resolving interpersonal conflicts and strengthening relationships in a group of youth involved with the juvenile justice system (McMahon & Pederson, 2020) and increased empathy scores for previously incarcerated men (Marlow et al., 2012) and trainee nursing students (Nosek et al., 2014).

In this paper, we detail empathy-related outcomes, in terms of attitudes and behaviors, of an 11-week training program in NVC for local communities in the Zambezi region of Namibia. Our findings point toward large, hitherto unrecognized potential benefits of NVC training for the future management of human–wildlife coexistence.

2 | METHODS

2.1 | Study site

Our study area was in the Kwando Wildlife Dispersal Area of the Kavango-Zambezi Transfrontier Conservation Area in Namibia. We focused on communities in three conservancies between Nkasa Lupala and Mudumu National Parks: Bamunu, Balyerwa, and Mayuni (Figure 1). Details of the study area are in Supporting Information.

2.2 | Data collection: NVC workshops

Information on recruitment of workshop participants is in Supporting Information.

The NVC training was incorporated into an 11-week Human–Wildlife Coexistence Learning Program consisting of half-day workshops in April–August 2019. In a forthcoming publication, we provide details on the whole program. Here we focus on the NVC component of the

TABLE 1 Examples of key concepts and ideas in nonviolent communication

Universal human needs (UHN)	• Shared by all humans and some animals • Are always positive • Not specific to a place, person, time or object • Examples: respect, connection, understanding, to be heard, autonomy, freedom • Are distinguished from "wants" or "desires," which are strategies to meet a universal need • Example: I want a car (strategy) to meet my need for safety (universal need) when I walk in areas with elephants
Feelings	• Inner expression of universal human needs • When universal needs are being satisfied, one experiences positive/desirable feelings • When universal needs are not satisfied, one experiences negative/undesirable feelings
Observations	• Information we receive from our sense of sight, touch, hearing, taste, and smell • Differ from interpretations and judgments, which are the meaning we give to those observations to make sense of the world
Requests	• Suggested strategies to meet universal human needs • They are specific, affirmative and doable • They are made with an intention to create genuine agreement, not to be accepted by manipulation or coercion (demands) • A "no" to a request is an opportunity to better understand and consider the universal human needs not satisfied by the request
Empathy	• A state of being present to the experience of another being (or oneself) without judgment or trying to change that person or their experience • Empathic connection can be achieved through reflecting back feelings and universal human needs • Giving and receiving empathy creates connection and understanding, which moves a human receiving empathy to greater calmness, openness, creativity, and willingness to listen • Empathy is given before trying to express opinions or offer solutions

training, which is described in Supporting Information and Table S1. Feedback sessions of 20–40 minutes took place at the start and end of each session. For the first feedback reflection, participants were asked to report any changes in their thinking or behavior as a result of attending the previous weeks workshop. This was an open-ended invitation. Sometimes clarifying questions were asked (e.g., Table S6—M41 & M25). If an attitude or behavior change was reported the facilitator asked the participant to reflect on how they would have behaved in the past before attending the workshop (e.g., Table S7—M58 & M47). The program then continued as described in Table S1 with a midmorning break. Toward the end of the training, a second feedback session took place where participants were encouraged to reflect on any insights or learning that stood out for them from the day. The feedback sessions formed the main data source for evaluating the NVC training. All types of commentary were invited, including where applicable, critical feedback. At the start of the program participants filled in consent forms and made agreements on conduct during workshops (e.g., being respectful of other opinions, not interrupting one another, permission to record). Ethical clearance was obtained from Stellenbosch University ethics committee (ref. 0967).

2.3 | Data analysis

Following verbatim transcription of the workshops, we used deductive, qualitative content analysis to construct a coding tree based on prior knowledge and assessing our assumptions about the change process actuated by the program. Our change theory was informed by the education change theory of the Cambridge Conservation Forum measures of conservation success conceptual models (Kapos et al., 2008) as well as social psychological theories of behavior change such as the values-attitude-belief model of behavior change (Homer & Kahle, 1988). Our hypotheses were that if participants attend the workshops and find them interesting and useful, they would appreciate the workshops, learn new things and understand the lessons. This will then result in changes in their attitudes and behavior, both of which will demonstrate increased empathic concern for both other people and wildlife (Figure S1). To evaluate these hypotheses, the coding tree thus consisted of the following four broad categories: (1) *Appreciation*—records where participants expressed gratitude for the workshops or any specific component of the workshop; (2) *Knowledge and understanding*—records that expressed understanding or learning of NVC; (3)

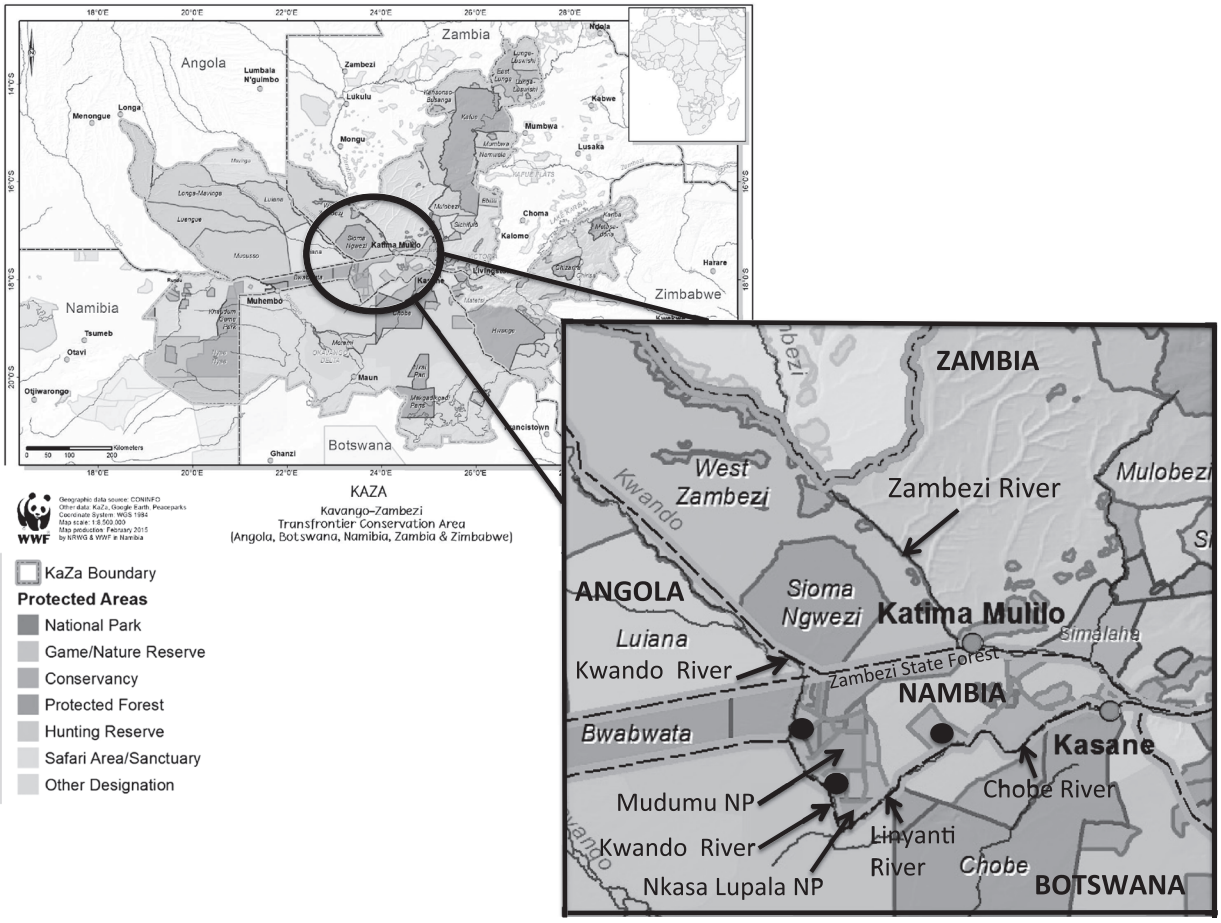

FIGURE 1 Map of study area; the Kavango Zambezi Transfrontier Conservation Area is southern Africa, showing the Mudumu complex in the Zambezi region of Namibia. Workshop locations are indicated numerically: 1 = Bamunu conservancy, 2 = Balyerwa conservancy, 3 = Mayuni conservancy. Main map courtesy of NACSO

Attitude change—records that reflected how a person's thinking, beliefs, or intention to act toward a psychological object changed toward being more favorable (a psychological object being any discernible aspect of an individual's world, including an object, a person, an issue, or a behavior; (Fishbein & Ajzen, 2010); (4) *Behavior change*—records of actual changes in behavior, often compared to how the person would have behaved before attending the workshops. Additionally, we created subcategories for the most prevalent coding themes to increase sensitivity to the local sociocultural context (Babbie & Mouton, 2007) (Tables S4, 2–4). Thus, our results contain conceptualizations specific to the case study. Codes were defined as discrete meaning units (Mayring, 2008). During data analysis, we aimed at preserving the qualitative character of the workshop discussions, resulting in subcategories being at different levels of abstraction. Coding was done by the first author and included discussions on the classification of codes into subcategories with other experts in the field to increase reliability of the coding process.

3 | RESULTS

Fifty-nine community members initially signed up; 54 actually attended and >80% of participants attended at least seven of the nine workshops (Table S2). The average age of participants was 30.5 years. The average highest level of education was grade 10. The average number of adults per household was 2.8 and children 3.8. Twenty percent of participants' yearly income was 500 Namibian dollars (NAD) ($38 US) or less, 38% earned between 500 and 5000 NAD ($380), 24% earned between 5000 and 10,000 NAD ($770), 11% earned between 10,000 and 15,000 ($ 1140), and 7% earned above 15,000 NAD. Sixty percent of households had some source of additional income to farming, mostly from government support grants and occasional jobs. These figures are average for the region but Zambezi region is ranked 4th highest in the multidimensional poverty index out of the 14 regions of Namibia (Namibia Statistics Agency, 2021)

TABLE 2 Examples of the attitude change category. For more examples, see Table S6

Type of attitude change	Example
Empathy	*F47: "What I have learned about that lesson … if you have empathy for the elephant, the elephant was able to respond nicely, but again if we did not show empathy, the elephant does not respond in a good way. So the same applies to humans. Even the animals, the way we treat them matters. The way we connect ourselves to animals matters. For example when the elephant replies to say you people are beating me, you killed my siblings, some of my family members. Maybe we do not show empathy, we are building in their corridors, we are causing damage."*
Empowerment	*M41: "For me I see that this program has changed me with a lot of issues. Like now the belief I have now if I'm talking to someone and let's say we have a conflict… the way I was earlier I was easily short tempered. You know working and doing community service, working in the community there are a lot of issues that can easily affect you, so this program has helped me … because I hear a lot of people talk things so there are a lot of things that injure me but now I have a different perspective."* F43: "*Universal human needs are for each and every human whether you're rich or poor and they all have the same human needs"*
Coexistence	*M29: "For me ever since we started the program here where we are right now. For me now I have understood that there's actually a better way we can live together with wildlife."*
Communication	*M16: "So when you have damage it's not that you go there annoyed to the office but you also try to compose yourself as you go and report to the office, that also helps."* *M44: "These lessons are quite good because they also teach us how best we can respond to others, like let's say the game guards, if they have come to record our damages or the field officer. Maybe certain times we don't say what is right because sometimes if for example we have damages maybe the cattle is dead because of a wild animal we will lie and say that the animal actually died yesterday. So like from what I've learnt I think, it seems is we are part to blame because in the end we blame those people that come and record the incidents."*

R, Ruth Kansky, the interviewer.

Appreciation was expressed on 104 occasions (Tables S3 and S4). *Knowledge and understanding* in relation to key NVC concepts and ideas was demonstrated explicitly on 54 occasions (Table S5). As such, we concluded the workshops were generally effective in engaging people and teaching key aspects of NVC.

Attitude change occurred with respect to human–human relationships, human–wildlife relationships, and conservancy governance. We recorded four subcategories of attitude change (Tables 2 and S6). First, *empathy* ($n = 15$) described records showing changes in attitudes to animals that demonstrated increased care and concern for their feelings and universal needs, increased tolerance to not killing, harming or disturbing them and a desire to conserve and coexist with them. The e*mpathy* subcategory for people suggested that participants recognized benefits from engaging and listening to others, seeing things from different perspectives and noticing universal needs, for example, appreciating that game guards may not always be able to come immediately to record wildlife damage, and that it may be frustrating for game guards when they come and a farmer has not ensured they have all the correct information. Second, *empowerment* related to increased feelings of agency and wellbeing ($n = 12$). For example, participants reported being less ill-tempered and less affected by words previously perceived as harmful or insulting. One participant directly commented that she felt empowered by recognizing that all humans fundamentally share the same universal needs. Third, *coexistence* related to a positive attitude to better coexist with wildlife without harming them ($n = 5$). Fourth, *communication* related to where participants reported changes in their attitude toward the importance of communication with conservancy staff and people in general ($n = 3$).

Behavior change occurred with respect to human–human relationships, human–wildlife relationships as well as conservancy governance (Tables 3 and 4). Three subcategories of behavior change were recorded: *empathy, NVC application*, and *empowerment*. *Empathy* ($n = 45$) could be further divided into five subcategories (Tables 3 and S7). First, *conflict resolution* ($n = 17$) related to narratives where potential conflicts were transformed into peaceful outcomes—including, for example, disputes within the workshop, disputes where people borrowed things from each other (money, fishing hook, a knife) or unexpected termination of a work contract. These demonstrated that participants could apply their new skills to avoid conflicts or prevent them from escalating. Second, *listening empathy* ($n = 10$) related to narratives demonstrating empathic listening to support friends, family, or community members—for example when a participant was able to comfort a man who had an experience with an

TABLE 3 Examples of the behavior change category, "Empathy" subcategory

	Tolerate animals
1	M12: Before the program, I used to hunt animals opportunistically if I came across them with my dogs. Since the workshops, I do not do that and think it's a bad idea to just harm animals.
2	M6: A mongoose moved into my house that I am using to store meat in and gave birth to young ones. Before the workshops and when I was young, I would chase them with dogs and when it ran into a hole, I would smoke it out. But now, I have empathy for it since I have thought of its need for safety and food for its young. I would have trapped and killed it but since the workshops, I have not removed it yet.
	M22: "*I am also thankful about the lessons. It encourages the relationship between the animals and us. I want to give an example. It was around midday, I saw a springbok just around, to the other side was a hyena. The hyena started chasing the springbok. So the animal went ahead and the hyena chased the springbok then again the springbok came around to stand nearby me. When the hyena saw a human being he stopped. Before the lesson we are having now, I would have hidden myself so the hyena catches the springbok, so I saved the springbok from the hyena. So I did not benefit from that meat. Before the lessons the hyena would have killed the springbok and I would have chased off the hyena and got the meat and there would have been meat and nourishment for me and my family. So when I stood and watched the springbok I noticed the springbok was expectant—I could tell from the udder that it was about to give birth. So I noticed I saved two lives.*"
3	M22: After a game, we played with animal sounds in the workshop, when I went home I noticed a female mouse and its young squeaking in the grass near my home. I watched it and did not kill it, which I would have before attending the workshops.
4	M48: My aunt had a scary incident with wild dogs while collecting reeds. She came home and wanted to go back with a gun to kill them but I tried to talk to her to convince her not to and that we should find a better way to live with wildlife so that the next generation will be able to see the animals.
5	M51: I found some hippos grazing near the river and decided to give them some space and not disturb them. On my way back they were still in the same place and I walked around them so as not to disturb them. In the past I would have run away or burned the area to chase them away.
6	M29: I was walking in the bush and saw a duiker. The duiker did not run away. I thought to myself "we can actually live with these animals if it is doing like this in my presence, so I feel there's a better way we can live with these animals." In the past, I would have tried to hunt it with my dogs.
	F28: "*I have a tree behind the courtyard where I have ground squirrels who used to be so problematic that it lead to me cutting it off totally because it was disturbing my household. Through the lessons that you have given us I learnt that we can co-exist with wildlife and with animals so I understand better that as much as they come now there is no harm that I can do to them but just accept them because I now have a love and understanding. Even if you go right now you will find ground squirrels at my household playing there and the kids get to watch them.*"
7	M35: Some cattle broke into my yard when everyone was away and ate the acacia seeds we had collected to sell. I chased them away without harming them, realizing they were meeting their need for nourishment. In the past I would have chased them out by beating them with an axe and hurting them.
	Resolve conflicts
8	M26: I had to inform some conservancy workers that their contract needed to be shortened because the hunter was coming and the conservancy said we must stop harvesting reeds in the wildlife area. I did not have enough money to pay them and was anticipating conflict with them over that. But I was able to communicate sensitively with them and avoid conflict.
9	M1: A friend who I owed money to, wanted his money returned but I did not have the money to pay him back yet I was able to listen to my friend compassionately and negotiated to give him some furniture instead of the money. In the past, I was an ill-tempered person and it would have ended in violence.
10	F3: I shouted at children in church who were not paying attention. I then noticed they were sad and not singing so I approached them after the service and was able to communicate with compassion, expressing my feelings and reasons for being upset. They felt better afterward.
11	M12: A friend owed me money from buying at my shop; my friend then sent someone else to buy something from my shop for him. Later I saw my friend at a soccer game and saw my friend was uncomfortable with me. I approached the friend with compassion and we had a good conversation. In the past I never used to use empathy or consider that an important issue but now I am comfortable with empathy.
12	F15: I was able to respond empathetically to a man who borrowed and then lost my fishing hook without asking; before I was an ill-tempered person.
13	F24: I was able to resolve a conflict peacefully regarding a knife my neighbor left in my house but had accused me of taking it. I offered her to speak about it calmly instead of violence and I managed to stay calm despite her aggressive behavior.

(Continues)

TABLE 3 (Continued)

	Tolerate animals
14	M50: I was annoyed with my friend who was busy talking on his phone instead of watching over the oxen we use to fetch water from the well. The oxen ended up fighting, ran away and broke things. The friend was not honest when I asked him what had happened to the oxen. But I did not shout at him but asked him calmly to please pay attention next time.
15	M41: I had a problem with my neighbor's cattle coming near my house and the bells making a noise and disturbing my sleep. Instead of having an argument with my neighbor, I applied the NVC concept of observation to investigate what was attracting the cattle to my house and removed the attractants—bones they were licking on and burnt grass they were feeding on and that solved the problem.
16	F47: I noticed how our behavior has changed during the workshops. At the start of the workshops, we did not consider others in how much bread we took during breakfast, but later on we are more considerate. Also we resolved some conflicts among ourselves during the workshops
	Listening empathy
	M44: "One gentleman last night, so he was from this area going eastwards so he met the elephant crossing from the forest area going towards the river. So he came to the office to say "now I have to die just because of your elephants" he came to the conservancy. I told him "you see that is an animal corridor where you were". So we had some form of dialogue, I told him "you see even animals they also have their own needs, so when you saw those animals, they were going towards the river to go drink water because they can't just live or stay without drinking water. Because you should be mindful that when they go and drink at the river—when they go and drink water in the river, they will not stay there forever, they'll still come back and use the same path that they used to go back to the forest where most of their food is." I told him "you see the way you are, you can't live without drinking water or eating anything, so just the way you are, even that's how animals are." He understood what I told him and then I told him to just be mindful of that, don't be moving in the night, the best time to move is during the day time if you start it's almost getting later so it's better just stay in the village and don't move around. Then he said "I'm thankful, I've understood what you've said."
17	F17: Since I learnt about empathy, I now listen to my friends and be there for them. Before the lessons, I did not feel empathy or did not think to bother with other people's problems.
18	M26: I gave my brother empathy after his cattle had been killed by a lion and helped him engage with the conservancy to report the incident.
	Helping hand
19	M12: I found my friend by the river and spontaneously helped him remove water from his canoe. Later the friend rewarded me with some money. Before the workshops, I would not have bothered to stop to help my friend since I was on my way somewhere.
	M6: "*I have a friend that is a pastor. I see he is happy all the time and cheers me up. So yesterday when I found him he sat like this. When I entered I knew something was wrong. So I asked him, what is wrong? He said he is sick, lonely. After that I said to him: "if you are feeling sick I can give you some Panado (headache pill." So I gave him painkillers for the headache. I also told him to eat something. At the end I felt empathy for him because he said he is lonely. So I told him I will visit him later. He was happy when we came later… Before I would've gone there and said: you are sick, just buy Panado and pray because you are a pastor."*
20	M2: I found some people arguing with a beggar. I felt empathy toward the beggar and was able to convince the people to give some of their food to the hungry man. In the past, I would have told the people not to bother with the hungry man thinking he was just lazy and a thief.
21	F5: I now always try to help a person if I can with things they need because if they ask it means there is a reason for them asking. For example, some people asked me for vegetables from my garden I am cultivating with my sister. My sister did not want to give the people any food for free but I convinced her to give them. Before the workshops, I would have told the people they must pay or work in the garden first.
	Kindness to family
22	M48: When I took my wife to the hospital, I noticed that she wanted me to stay with her so I did. Before the workshops, I would have just left her there and come back later to fetch her.
23	F5: My younger sibling borrowed my laptop without asking. At first, I felt annoyed but later I thought to myself that he wanted to check his end of school results and I was not there to ask so I did not get angry with him. In the past, the moment I reached home and saw the laptop was not on the table my reaction would have been vicious.
24	F3: I have stopped caning my children to discipline them and I have more empathy for them. I now advise them in an orderly way.

(Continues)

TABLE 3 (Continued)

Tolerate animals
M14: "I am also thankful for the time and chance given. So I stay with my two younger siblings. They are men, or boys. Like the way we used to stay, before the workshops, we never used to live nicely or properly. We never used to give respect to each other. So when I started attending these workshops I started approaching them nicely and helping them whatever they need. I saw that they were giving respect to me. So we starting living together nicely or properly. Even in those issues where we are about to have fights, those came to an end. Now if I didn't attend these workshops maybe I could have fought with my brothers. Maybe this time around I would have been hated by my brother if I had not attended these workshops.…. they have noticed the changes—like this time around when I'm home they can come near me and sit next to me and we can chat nicely but in those days they used to fear me. So this time around it makes me feel good because we can chat and discuss life in general."

Note: Here, mostly shortened summaries of stories are presented but the complete quotations are presented in italics; see Table S6 for the full quotes of the shortened stories. Each story was given a unique identifier number that can be used to find the complete quotes in Table S6. Each participant was given a unique identifier number and M and F before the identifier number denoted the gender of the speaker.
R, Ruth Kansky, the interviewer.

TABLE 4 Two examples of the behavior change category, subcategory "Empowerment"

M1 told a story of how he managed a conflict at a parents meeting with the principal using nonviolent communication and empathy. When asked how things would have been different before attending the workshops, his response was: *M1: What I know is if I didn't attend these lessons, what I would've done, I would've just gone straight into the principal's office tell him to say "can we just clear this office because there is nothing you are doing here" I would've just done that but due to the lesson we learnt I didn't do that. That could have led to maybe the police coming to pick me up. Because I remember last time I confronted the councillor because also that lady called the police to pick me up so I think because of these lessons I'm trying to calm down now and use other means. See now like these lessons somehow make you look foolish because people be asking but you, you act like this, why are you doing like this?* *R: So how do you respond?* *M1: Like we having more of like empathy, sympathy stuff so we kind of learnt to calm down so that is making us not react the way we used to.* *R: And so how does that make you feel? Like which* way *do you prefer to behave?* *M1: I think these lessons have really helped me personally a lot a lot.*
F15 told a story of the "new" her, how she responded to a man who took her fishing hook without asking her and then losing it. *F15: I think the way I was even it was my young siblings I could've fought.* B*ecause I remember when I was a cashier in Johann's shop so even when a customer would say something I would easily get agitated. I noticed from this social learning I mean somehow you look as if you are foolish but it somehow it has helped us.* *R: what do you mean you look as if you* are *foolish?* *F15: Because I remember those days the way I was like. Because maybe the path I had I thought was a good one actually now I'm thinking probably this one I have now is good one than the one I had.* *R: What is better about this path? How does it make life more wonderful for you?* *F15: I know it's a good path. So one of the people used to fear me but now these days are now coming towards me now like they no longer in fear of me. I remember some people would say "this time around because those days we used to fear you because the moment someone talk to you are already in conflict with someone but this time around we are trying to get used to you."* *R: But for you, what needs—what needs are met now in the new you?* *F15: Like to be understood or understanding is very important and when you have cooperation you live in harmony and there will be no conflicts.*

R, Ruth Kansky, the interviewer.

elephant that scared him and came to complain at the conservancy. Third, *helping hand* ($n = 6$) related to narratives demonstrating assistance to people who were in need, whereas before attending the workshops, they would not have bothered to assist. Examples included when a participant provided medication and visited his lonely, sick friend; when a participant spontaneously helped a friend remove water from his canoe; when a participant supported a beggar to receive food; and when a participant gave free vegetables to a needy couple from her garden. Fourth, *tolerate animals* ($n = 6$) related to narratives where participants stopped hunting wildlife, tolerated nuisance species around the yard, or were able to show more empathy to animals in general by thinking about their universal needs. Fifth, *kindness to family* ($n = 5$) related to narratives of changes in relationships with family members due to better understanding their universal needs and seeing things from their perspective. Examples included when a

participant stayed with his wife at the hospital instead of leaving her by herself, when a participant avoided shouting at a younger sibling for using her laptop, when a participant refrained from hitting her children or when a participant improved relationships with siblings.

The second type of *behavior change* was *NVC application* ($n = 15$) where participants reported applying specific NVC components that resulted in positive outcomes (Table S8). Examples included using the concept of "observation" ($n = 6$) to win a court case, unravel a family death and understanding the attraction of a homestead to cattle.

The third type of *behavior change* was *empowerment* ($n = 11$) where participants reported being ill-tempered in nature before the workshops but the workshops had changed them for the better (Tables 4 and S9). Others reported that the workshops helped them come out of their shell, while two participants reported being less sensitive to what others say or think about them.

There were four types of targets to which the attitude and behave changes were directed toward conservancy management, animals or wildlife, people in general and oneself (Table S10). When grouped into targets specifically related to the workshop topic (i.e., wildlife and conservancy governance) and those not related specifically to the workshop topic, 64% of the records were toward those not related specifically to the workshop topic (Table S10).

4 | DISCUSSION

We taught NVC as part of a participatory dialogue program to determine the extent to which this training could increase empathic concern toward wildlife and between people living with wildlife. Using weekly reflexive feedback from participants, we collected 36 examples of attitude change and 71 examples of behavior change. We hypothesized that attitude and behavior change would be facilitated if participants regularly attended workshops, appreciated the information presented, found it useful and learnt and understood new things. We found strong evidence for these hypotheses and therefore concluded the workshops had been effective in engaging people and teaching key aspects of NVC.

During workshops, participants reported multiple experiences of emotionally negative and physically harmful interactions with wildlife involving themselves, family, or other community members. Stories of attempts to hunt wildlife or injure them in response to a negative incident as retribution or to prevent future attacks were also reported. However, our work showed that people were willing to shift their attitudes and behaviors, signaling tendencies for greater tolerance and more peaceful coexistence. Given that living with wildlife can incur significant tangible and intangible costs to people (Kansky et al., 2021a; Kansky et al., 2021b; Salerno et al., 2020; Thlondhlana et al., 2020), increasing tolerance should go hand in hand with reducing these costs and providing support to communities; this is vital especially for the global south, which is a major stronghold for large mammals, but is also where the largest costs of living with wildlife are incurred (Jordan et al., 2020).

NVC training has the potential to be an effective tool to increase empathy and promote tolerance and human–wildlife coexistence, at least during the time span of programs such as the one we conducted. Although the focus of our work was on living with wildlife, our findings suggested that NVC could also be applied to promote communication skills in general. To date, NVC has rarely been used in a context of environmental challenges (but see Salvatori et al., 2021), but our results suggest it holds substantial promise as a participatory method to resolve environmental conflicts or in conservation communication in general as suggested recently by Williams et al. (2021).

The advantages of using NVC, and our rationale for using it in the first instance, are multiple. First, it is widely accessible; there are many trainers globally (although most certified trainers are from the global north, there is a growing number in the global south), many trainers are willing to provide training on the basis of the gift economy, there are many resources available freely on the web, there are many books and training materials available, and with the use of these resources, individuals can self-organize into practice groups to use and learn NVC without the need for professional trainers. Most recently, since the SARS-CoV-2 pandemic and subsequent lockdowns of social gatherings, there has been a surge in online global conferences and trainings (also accessible through the gift economy) that are available to deepen NVC practice. For these reasons, NVC is also an ideal tool to promote to the conservation sector in the global south. An additional advantage of promoting NVC in the environmental sector is its potential to act as a deep leverage point for sustainability transformation (Abson et al., 2017); besides being a communication tool, NVC is based on a philosophy of nonviolence and therefore could promote a paradigm shift and systemic change toward a more sustainable and just future.

5 | CONCLUSIONS

We reported the first NVC training for the conservation sector focusing on the complex problem of human–wildlife coexistence. We were able to demonstrate a "proof of concept" that NVC training has the potential to be a useful tool to address both aspects of coexistence: increase tolerant attitudes and compassionate behavior toward wildlife and improve human relationships to promote collabora-

tion. Increased tolerance was expressed with narratives expressing a reduction in the desire to harm, disturb, or hunt animals and an increase in understanding their needs, to care for them and a willingness to share the landscape with them. Improved human relationships were expressed through narratives demonstrating skills in preventing verbal and physical conflicts, improved communication and listening skills, and demonstration of compassionate behavior toward others.

In a forthcoming paper (Kansky, forthcoming), we describe in more detail how we incorporated the NVC training into the larger Human–Wildlife Coexistence Learning Program that aimed to unpack the governance system in conservancies to better understand how HWC is managed. For conservation researchers who may wish to engage with NVC in the future, we suggest to start with reading and studying the available literature and online material. To deepen practice, one could attend training courses or join a practice group. Lastly, one could engage experienced facilitators for a specific program. A list of these and more information about NVC can be found at the Centre for Nonviolent Communication website (http://www.cnvc.org/)—a global organization that supports the learning and sharing of NVC, as well as the NVC Academy (http://nvctraining.com).

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AUTHOR CONTRIBUTIONS

RK conceived the study. RK designed the study with input from TM. RK and TM implemented the study. RK analyzed the data and wrote the manuscript. TM provided feedback and comments on the manuscript.

DATA ACCESSIBILITY STATEMENT

Due to the personal nature of the data used in this study raw data is not available publically.

CONFLICT OF INTEREST

The authors declare no conflict of interest

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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