Transforming Trauma: Resilience and Healing Through Our Connections With Animals

Philip Teseschi
Molly Anne Jenkins

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TRANSFORMING
TRAUMA
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Series editors: Alan M. Beck and Marguerite E. O’Haire, Purdue University

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TRANSFORMING TRAUMA
RESILIENCE AND HEALING THROUGH OUR CONNECTIONS WITH ANIMALS

Edited by Philip Tedeschi and Molly Anne Jenkins
Foreword by Dr. Bruce D. Perry

Purdue University Press, West Lafayette, Indiana
Dedications

Philip Tedeschi
Some of my most trusted and reliable friends are nonhuman animals. Fortunately, in my own life, the human-animals who raised and loved me were trustworthy as well. I want to express my deepest gratitude to my parents—John and Anne Tedeschi, both inspired intellectuals and scholars—whose commitment to issues of social justice, respect for others, and learning is only surpassed by the love they have for their children. In the safe harbor of our home, my sisters and I were encouraged to learn, to think for ourselves, and to seek adventure and exploration. Throughout my life, these gifts have helped me connect with animals and the natural world, as well as raise a family of my own. This book and its penetrating message of wonder and hope is dedicated to the loves of my life: my wife, Rebecca Albright, and my children, Gemma, Ruby, and Micah Tedeschi. You power my world, and it has been my genuine honor to share this life with you.

My heartfelt gratitude goes out to my fantastic colleagues and the indomitable team at the Institute for Human-Animal Connection at the Graduate School of Social Work, University of Denver. You are many and you know who you are. Namaste.

Molly Anne Jenkins
I owe a great debt of gratitude to my dear ones—both human and animal, too many to count or mention here—who offered insight and surrounded me with encouragement throughout the creation of this most exciting book. Thank you, Phil, for always inspiring me to come into my own and to take the conversation in new, unexplored directions. To mom, my first editor: thank you for your unwavering dedication to the causes that matter, for your support of me and my writing, for giving me Riley when I needed him most. With all my love, I dedicate the pages that follow to my sweet little family—Queenie, whose friendship swells my heart; Murray, who keeps me ever on my toes; and my wondrous Nick, who believes in me and says so, day in and day out.
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Foreword

Trauma, resilience, healing, and connection—these words have permeated the young field of traumatology for the last thirty years. Indeed, hundreds of articles, book chapters, and books have these words in the titles; thousands of researchers and clinicians study and write about trauma, resilience, connection, and healing. Yet the current book is so important because of a unique and powerful lens applied to these issues—the human-animal relationship. The capacity of human-animal interactions to play a central role in the therapeutic approach to trauma is, at once, ancient and unappreciated. These authors are pioneers. They share their thoughts and experiences in these chapters. This is a refreshing perspective in the current climate where the “evidence-based” loop tends to inhibit creative exploration of promising clinical practices. Evidence of effectiveness is essential for us to move our field forward; yet, without systematic exploration of plausible practice and program elements, no progress will take place. And what could be a more plausible and effective source of healing than that provided by centuries of convergent evidence, independently collected from multiple cultures on different continents?

This capacity for strong, nurturing (and helping) relationships is an essential element of therapeutics. In studies of the effectiveness of therapy, one common (and most powerful) factor emerges: the capacity to form a helping relationship is the best predictor of outcomes independent of clinical technique or therapeutic perspective. Reflect a moment on the intense emotional connections between humans and animals—you may have one yourself. Our literature and arts celebrate these relationships—Black Beauty, National Velvet, The Black Stallion, Old Yeller, One Hundred and One Dalmatians—and remember Toto, Lassie, and so many more.
It stands to reason then, that the human-animal connection could be used for therapeutic purposes. The rationale and practice are outlined throughout this book.

Another emerging, important factor in therapeutic work in trauma is the importance of regulation as a key factor in effective engagement. A dysregulated child (or adult) is difficult to connect with and impossible to reason with. And, of course, a sensitized, overly reactive stress response is a major characteristic of most trauma-related syndromes. This sensitization frequently interferes with the capacity to utilize any cognitive dominant interventions (e.g., Trauma-Focused Cognitive Behavioral Therapy or TF-CBT). The organization of the central nervous system (CNS) is such that all sensory input (read as “all experience”—including therapeutic engagement) first is processed and, if appropriate, acted on by lower, more reactive networks in the brainstem and diencephalon before limbic and cortical networks have a chance to process or act. This means a clinician attempting to engage a dysregulated individual with these lower neural networks on hyperdrive will be fundamentally frustrated. The sequence of engagement dictated by our neuroanatomy is to regulate first, then relate, and then reason. Our capacity to get to the most important and most “human” part of our brain depends upon a minimal level of regulation. Enter man’s coevolutionary partners, the dog and horse.

In the codependent evolution of humankind and animals, dogs, specifically, were major regulators for humans. For possibly 32,000 years, humans and dogs have depended upon each other. When a known dog is present and projecting nonverbal, nurturing signals, part of the human brain knows “the camp is safe.” Dogs, with their superior capabilities in hearing and smell, expanded the sensory alarm radius for their human clan dramatically. Deep in our brain we know that if the dog is relaxed and playfully engaged, we are safe. The mere presence of a calm dog will calm us down. In contrast, a shift in vigilance or an alarm bark tells us something is afoot. Similar shifts in a horse’s behavior can have comparable impact on our regulatory state. The horse has been our coevolutionary partner for less time than dogs, probably 8,000 years or so, but this capacity to read and respond to the subtle emotional cues of a human in ways that are regulating and reassuring is equally strong. Certainly, this coregulatory capacity is a major component of therapeutic work with animals.

A second and equally important regulating element of interacting with our animal partners is the impact that repetitive, rhythmic somatosensory
activity has on our stress-response systems. Petting, grooming, riding, and walking with our animals will provide a powerful regulating rhythmic input that is known to calm a dysregulated individual.

The combination, then, of human-animal connectedness to regulate and relationally engage (relate) provides a perfect matrix for the therapeutic process with an individual experiencing trauma. This is most helpful if the trauma has been in the context of early life relationships resulting in attachment problems; in these cases, the individual has developed human-specific relational evocative cues that can disrupt attempts to use traditional therapies that are relationally mediated. The client will be escalated and dysregulated by attempts to “connect.” In these situations, the animal-specific sensory cues that are present during the regulating and relationship-building processes are not “evocative” and disruptive. The client can engage, learn, grow, and heal in context of the human-animal relationship, preparing them for healthier human connectedness in the future.

The authors of this book provide an exciting and promising exploration of the power of our connections to animals. These ancient and important connections may prove to be some of our most effective and flexible ways to engage and heal. Certainly, these insights will improve our current limited capacity to meet the needs of the vast numbers of maltreated and traumatized children, youth, and adults.

**Bruce D. Perry, M.D., Ph.D.**

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INTRODUCTION

Human Trauma and Animals: Research Developments, Models, and Practice Methods for Trauma-Informed Animal-Assisted Interventions

Philip Tedeschi, MSSW, LCSW; and Molly A. Jenkins, MSW, AASW

Throughout the writing and editing of this book, Samara has been by our side, providing levity and support through countless brainstorming sessions, discussions, and rewrites. Her head and body are generally pointed in our direction, even through the snores that characterize her deepest sleep. With just a small squint of her resting eyes, we take comfort in knowing she is observing our various actions, behaviors, and moods—rarely missing a thing or skipping a beat. Samara is a black Labrador retriever who lives and works with Philip Tedeschi, and plays an integral role at the University of Denver’s Graduate School of Social Work. Through our collective time together on this project, she has taught the two of us a great deal. Originally adopted from Colorado’s Prison Trained K9 Companion Program (PTKCP), Samara now works with students in our graduate-level animal-assisted social work program, with several other clinical assignments ranging from visiting with children who have experienced developmental trauma to assisting adults with persistent mental illness and homelessness. As such, we have spent a lot of our time with her, and although we know dogs as a species well, we are routinely amazed by her intuition and emotional attunement, as well as her personality, which seems to be fully
committed to our work of caring for people and educating students. It is
difficult not to be amazed by the patience and level of consistency she offers
to establish her side of a relationship. On most days, you can be sure you’ll
find her right in the thick of it.

ORIGINS

Every book concept has a birthplace. This particular book has two in-
fluential origins that captured our attention, and increased our already
ardent interest in exploring how animals consistently play a profound and
facilitative role in human trauma recovery. However, the pages that follow
are not so much a story of our own journey to explore this topic as a sig-
nificant window that we hope both frames and clarifies a paradigm in need
of greater understanding. In the process of editing this volume, we have
encountered many important concepts, new findings, and influences, all of
them shaped by intimate testimonials, accounts of actual implementation
of programs and practices, and emerging and well-established research. We
are pleased to be able to present the meaningful and varied work of each
of the contributing authors in the forthcoming chapters.

One of the first catalysts for this book was a conference entitled,
“Transforming Trauma: Research Developments and Methods for Trauma-
Informed Animal-Assisted Interventions,” held in 2015 at the University
of Denver and organized by the Institute for Human-Animal Connection
as part of the “Animals on the Mind” Conference Series. The Institute for Human-Animal Connection has existed at the University of Denver (housed in the Graduate School of Social Work) since 2007. This conference offered two days of focused presentations on contemporary research to practice models to illuminate the discourse and new research directions occurring in the field of human-animal interaction (HAI). Overall, this learning event was an impactful step toward highlighting the emerging evidence basis for animal-assisted intervention (AAI) in a variety of trauma recovery domains, including developmental trauma, adult post-traumatic stress, and crisis response.

Equally important were the compelling accounts among conference participants, many of them students, who frequently shared a resolute certainty regarding the power and transformative capacity of human-animal connection. More often than not, these participant convictions stemmed from personal experiences where animals and animal relationships served as critical elements in their own recovery, in some cases literally saving their lives. Over the last decade, many students enrolled in the animal-assisted social work program at the University of Denver (in which Tedeschi directs and Jenkins graduated and serves as affiliated faculty) have shared that their interest in incorporating animals into social work and therapeutic settings emanated from personal experiences where an animal helped them cope and find the resilience to move forward from the impacts of child abuse, parental divorce, and grief related to other losses (among others). It is difficult to argue with someone who has personal experience as his or her proof of concept, much less many “someones.” These powerful personal testimonials of human-animal connection, as well as an intention to enrich the AAI field’s understanding and therapeutic application of them, have offered important emphasis in shaping the focus and narratives of this book.

THE ETHICS OF HUMAN-ANIMAL CONNECTION

Above all, we hope the most powerful takeaway from this volume will be a commitment toward an emerging new ethical mandate in AAI. It is inevitable in the offering of a book such as this, where we have examined with some detail the complex situations in which we place animals, to wonder if we should, in fact, be promoting these activities. For example, we might wonder what it is like to be a dog who is assigned to live
with an angry, depressed, or potentially suicidal individual diagnosed with post-traumatic stress disorder (PTSD), or who is asked to respond to the inconsolable grief of a community responding to the losses inflicted after a school shooting. In compiling this text, we have been humbled by the remarkable capacity of animals to be at our sides, often through no choice of their own, during these moments of adversity. Nevertheless, we are just as certain that sustained practice and research improvements are essential to ensuring that our expectations of animals who take part in this work are fair, reasonable, and informed.

In the chapters to come, you will likely find agreement among the contributors that we must offer optimum support for animal well-being in AAI, and that our current welfare standards—developed to support visiting therapy dogs through the application of basic animal welfare standards, such as the Five Freedoms—will no longer suffice to fully meet our obligation. The worst possible outcome of this amazing field of HAI would be to succeed in our pursuit for evidence that animals do in fact improve human health, but then systematically launch yet another problematic and exploitative mode of interacting with them on a large scale. The risk that this could be an unintended outcome of progress developments within the field is likely. We say this because human-centric agendas often fail to build in adequate, critical review from the perspective of how our actions impact nonhuman animals. In the context of trauma response, it may be even more likely that the consideration offered to the animals involved might be overshadowed by the gravity of responding to the crisis or to the intensity of need among human clients. As we move forward with the processes of defining the potential of HAI, developing and continuously refining AAI protocols to support effective intervention, and documenting outcomes through improved scientific study, we must also seek—as a stipulation—a rethinking of our relationships with other animals and our ethical obligations as stewards of their comfort and well-being.

THERAPEUTIC EFFECTS OF HUMAN-ANIMAL INTERACTIONS
AND EMERGING PRACTICES

Throughout this book, every effort was made to articulate and examine the unique, therapeutic, and diverse ways that animals seem to help humans overcome trauma. The AAI field is growing in remarkable ways. Importantly, the significance of the origins for this book’s development is
largely based on the current prevalence of AAI practice, with thousands of programs, nationally and internationally, beginning to incorporate animals for specific human health objectives and outcomes. This increase in interest may be due, at least in part, to the challenges encountered in finding effective treatment for persons who have experienced trauma, including that which is associated with the complexity of decades of war; various forms of child maltreatment; large-scale disaster, violence, and inhumanity; and mass victim events. This difficulty might be especially true in cases of treatment-resistant forms of trauma, as well as large numbers of people needing services with urgency due to high rates and risk of suicide. For example, the Veteran’s Administration Health Care System (VAHCS) reports that 50% of clients with PTSD admitted to its evidence-based programs quit within the first three sessions, with 66% of those who actually completed treatment still meeting the criteria for a PTSD diagnosis (National Intrepid Center of Excellence, 2014).

Increasingly, research suggests that HAI has a positive impact on human emotional health. A prominent conclusion is that HAI provides overall emotional support, and correlates with reductions in depression, anxiety, and stress (McCardle, McCune, Griffin, & Maholmes, 2011). Some researchers suggest that the reason for AAI’s success is rooted in an animal’s ability to create relationship, offer affection, and provide a less-threatening opportunity to connect with the helper or intervention (Kruger & Serpell, 2006). There is general consensus in the field that AAI’s quality of enhancing rapport-building between client and therapist is one of the greatest strengths that animals offer in trauma-informed settings (Beetz, 2017). For instance, AAI can be employed to develop safety in the therapeutic alliance and increase the retention of clients, both of which serve as significant challenges in trauma treatment. Enhanced motivation increases retention, which is the best predictor of positive results, increased likelihood of bonding with treatment providers, actively participating in treatment, and endorsing treatment goals (Lefkowitz, Paharia, Prout, Debiak, & Bleiberg, 2005).

Moreover, animals are often perceived as being more genuine than humans, given that they do not hold human biases (Chandler, 2005; Pichot & Coulter, 2007). In this way, clients often trust a therapy animal more readily than they do humans, and this can serve as a precursor to developing trust with a human therapist. The presence of an animal may also reduce the client’s overall anxiety about being in treatment, and offer additional and regular opportunities to have a client reevaluate the trustworthiness
of his or her therapist. In addition, the therapeutic animal may provide the client with a surrogate for therapeutic touch, allowing for the use of physical touch in an ethical and appropriate manner (Chandler, 2005).

**ANIMALS’ ROLE IN GROWTH AND RESILIENCE IN TRAUMA RECOVERY**

What happens when we are not able to trust people? Or when a life event so completely shakes the foundation of our willingness to have human relationship that a traditional therapeutic “trusting relationship” is no longer a viable approach to therapeutic intervention? These types of deep trauma experiences have the potential to establish long-term patterns of functioning that can interfere with an individual’s normal development and healthy living. For example, childhood trauma can disrupt normative emotional development, as well as negatively influence a child’s ability to experience emotional security (Perry, 2008). Childhood trauma is associated with biological stress reactions that influence brain development and can disrupt motor, emotional, behavioral, language, social, psychosexual, moral, and cognitive skill development. In turn, challenges to behavioral and emotional regulation contribute to disruption in attachment and likely impact all relationships throughout the life span. These developmental disruptions can leave a child at risk for developing internalizing disorders, such as separation anxiety disorder, dysthymia, major depressive disorder, and externalizing disorders (e.g., attention deficit hyperactivity disorder or ADHD and oppositional defiant disorder) (van der Kolk, 2002). Notably, they may also result in a diagnosis of PTSD.

Increased research and scholarship in this area appears regularly, and a significant level of interest seems directed at the potential that animals offer for recovery and resilience in response to trauma. Research methods have expanded to explore the underlying mechanisms at work, including the changes that animals can have on our physiological and neurobiological functioning (Beetz, 2017). Time and again, people also reflect that the presence of a trusted nonhuman animal allows them to experience the comfort that comes only from feeling physically and emotionally safe; indeed, the importance of feeling safe with animals in trauma recovery is highlighted throughout the chapters of this book, and even influenced our choice of cover art (“Safe,” by Elicia Edijanto) and design. Further, animal-assisted treatment of complex trauma, and particularly as it manifests in PTSD, is
at the forefront of clinical research and public discourse, particularly given the increasingly visible social challenges amongst post-9/11 veteran and active service member communities.

Within this text, we have utilized in places the concepts of resilience and post-traumatic growth. These concepts remain somewhat controversial, in part because they lack the full authority of significant evidentiary support. Briefly defined, post-traumatic growth (or PTG) suggests that trauma for some persons, and under some circumstances, is beneficial (including psychologically and physically), with recognition that trauma is not experienced uniformly and that not all individuals react to trauma experiences in the same way. Resilience has been described as “the ability of an individual, family, group, community, or organization to recover from adversity and resume functioning even when suffering serious trouble, confusion, or hardship” (Kirst-Ashman & Hull Jr., 2012, p. 22). Presumably, developing or emphasizing a person’s resiliency following the adverse event(s) may improve his or her well-being, and ease the challenges and symptoms of the trauma so that the person may achieve a higher level of functioning and, thus, quality of life. That is to say, greater resiliency may lead to PTG.

Through experience, research, review, and discussion of material, we have encountered the inclusion of animals (companion, therapy, service, and those living in nature) in the lives of individuals as offering opportunity for significantly improved functioning. As such, we postulate that one reason why animals may be so helpful in trauma recovery is because of their capacity to foster resiliency in those affected. Throughout this book, we hope that readers will consider the following questions time and again: 1) What factors might impact the reframing of PTSD to PTG? and 2) Is the presence of, or connection with, an animal a significant or particular contributor to this transformative process?

**RESEARCH AND IMPLEMENTATION SCIENCE**

The primary purpose of research is to test theories through the discipline of sustained and sound inquiry, thereby building authoritative scientific knowledge. Clear terminology, testable protocols, and robust objective measures that underpin strong methodological evaluation are all advantageous research components. Like other AAI investigators before us, we will fall short here in establishing absolute certainty and specificity in regard to particular models, and in providing unassailable endorsement of their scientific,
clinical, and practical applications. We will, however, begin to see appearing from the underbrush of these chapters, concepts that hold consistency and structure, have basis in existing practice and research, and offer promise as emerging trauma-informed interventions that deserve our attention.

In virtually every article published in the existing HAI literature, the author bemoans the scarcity of supportive research and calls for more. But more of what, exactly? From our perspective, the needs that continue to hamper AAI and HAI research efforts, primarily, are related to a lack of monetary (and other resource), innovation, and implementation support. Recent trends in funding new research with rigorous standards, while well-intentioned, may inadvertently have their own drawbacks, particularly in terms of feasibility and practicality. Therefore, in addition to meeting expectations for refined research with scientific gold standard, we may also want to refocus on—and fund—more testable theories and methodologies in order to boost the certainty in these ideas and the impact of these interventions.

As alluded to above, there exists a significant research-to-practice gap in the field of AAI, in that practical applications often fail to be manifested in reproducible fidelity to the research models or protocols. The inclusion of animals in trauma-informed programs is diverse in both practice setting and client population. As the field moves forward to investigate the health-related potential of AAI, it is clear that the evidence base needed to ensure that treatment models are effective and implemented with quality has not kept pace with expansions in practice. Furthermore, individual organizations involved in delivering AAI often have limited capacity for program and staff development, quality implementation, and practice evaluation, all of which can affect the quality and efficacy (or lack thereof) of the wider field. Researchers are likewise hindered as a result of this research-to-practice gap because they are often attempting to examine interventions that are loosely defined and/or inconsistently administered. Thus, we contend that greater emphasis on “real-world” research, as well as increased resources to bring these findings into implementation, are critical to consider as the field continues its growth in the areas of trauma treatment and recovery.

On the whole, two new goals of investigative research in trauma-informed AAI settings should be to establish a general, consensus-based literacy related to the underlying conceptual frameworks that can inform practitioner training programs, and to examine specific methods under which this
knowledge might be utilized to achieve greater methodological fidelity and approaches to evidence-based practice outcomes in AAI. As editors, we attempted to ensure that each chapter offers clear, coherent, and factual content. However, given that this emerging field of trauma-informed AAI is still in an “information-gathering phase” of sorts, we did not attempt to substantively change the terminology or central concepts presented by each author or set of authors.

As such, we realize and have accepted that the discussion of certain concepts—specifically related to the definitions, use, and application of select terminology (e.g., the biophilia hypothesis)—will differ somewhat due to the divergent approaches and professional backgrounds of our contributing authors. As editors, we might have approached this challenge by forcing a shared definition and set of formal agreements on the use of these key terms. Instead, we were compelled to offer the flexibility for each contributor to discuss these terms in his or her distinct and intentional manner (as long as accuracy was maintained). Although this may require an expansive intellectual effort on the part of the reader, we have concluded it may, in time, serve to offer a more robust and comprehensive understanding of these core concepts at this early stage in the field’s growth. Eventually, we believe that requiring a shared set of definitions and terminology will likely be important and worth seeking agreement for the purpose of accurate translation, as well as the enhancement of practice and research protocols. At the same time, we support the need to create sufficient space to explore the diversity of ideas and models, and to allow for innovation and integration of new knowledge. We hope that the use of terminology and concepts in this volume offers adequate attention to both of these objectives, and that the diversity of thought strengthens, rather than hinders, the ultimate potency of the text.

CONCLUSION

In the following chapters, we are honored to introduce you to our contributing authors whose insight and generosity of spirit in sharing their ideas we wish to acknowledge and celebrate. They represent a diverse and highly qualified array of experts on the topics offered. In this volume, we and our contributors will primarily focus on three categories of human trauma experience: 1) child and family violence; 2) crisis response and
intervention; and 3) post-traumatic stress, particularly among military service members and veterans. As discussed earlier, this compendium of chapters and associated ideas were not written with the intention that they would necessarily coalesce with one another or be vetted for agreement between authors. It is, however, our hope that the organization of chapters builds toward consilience of a more integrated knowledge on these subjects.

Edward Wilson has stated that “the greatest enterprise of the mind has always been and always will be the linkage of the sciences and the humanities” (Wilson, 1998, p. 9). He reflects openly on the limitations and fragmentation that often define our approach to education, scholarship, and research, and in turn, presents a stunted way in which we tend to gain knowledge and understanding. In an effort to address these challenges, Wilson imagines a process that reaches far beyond transdisciplinary integration. He indicates that the concept of consilience occurs when inductive knowledge obtained from one core branch coincides with another, allowing for the true testing of theory. According to Wilson (1998), “the strongest appeal of consilience is in the prospect of intellectual adventure and, given even modest success, the value of understanding the human condition with a higher degree of certainty” (p. 9).

Here, we feature contributions from a diverse set of professions and disciplines. To name a few, we have academics involved in the social and biological sciences; practitioners in education, psychotherapy, and human and nonhuman medicine and public health; and clinicians serving the continuum of the human condition across the life span. This book’s contents include those proffered by scientists oriented toward analysis and measurement who might dispute the suggested best methods and tools, or even the most important questions to ask, posed by therapists or teachers (and vice versa). This, again, is reflective of divergent methodologies and differing standards of illuminating fact-based knowledge and, thus, of reporting different colors and dimensions of the truth. Indeed, the present contributors routinely use a lexicon and language indicative of their unique lens and disciplines, placing differing weight on what is significant and what constitutes relevant knowledge. In linking together the chapters, we sought to gain greater consilience among the core branches of knowledge that engineer our progress and certainty. As you read this book, moving from one chapter to the next, consider taking on the enterprise of linking knowledge, rather than ranking information hierarchically. Valuable
knowledge will come at you from differing perspectives, even from non-human perspectives if you listen carefully.

People have a way of placing themselves first. One of the more important lessons learned from the creation of this work is that humans can often be lazy and careless about our relationships with one another, even when attempting to help. Spoken and increasingly written language appear to be the only information and methods of communication we tend to offer our human counterparts in order to understand and to be understood. Animals, on the other hand, use everything except verbal language in which to communicate and understand others and the world around them. Even when trying to understand the contributions offered by our nonhuman relationships, we often fail to appreciate the emotional, cognitive, and communicative diversity of other animals. Greater attention must be paid to how animals communicate their needs, preferences, and support, particularly in the context of AAI for trauma.

As we finish writing this introductory piece, Samara has not abandoned her post. She lays quietly close to the desk and, per usual, offers us her ever-reliable patience and good nature. We have attempted in this book to both encourage and retain the authentic voice of each contributor. In the process, we hope we have captured hers as well.

REFERENCES


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**ABOUT THE AUTHORS**

**Philip Tedeschi** is the executive director of the Institute for Human-Animal Connection, and faculty at the University of Denver’s Graduate School of Social Work. Recognized for his expertise in clinical methods for animal-assisted interventions, he is the founder and supervisor of the University’s Animal-Assisted Social Work and Animals and Human Health Professional Development certificate programs. His teaching, research, and scholarship focus on the bioaffiliative connection between people and animals, human-animal interactions, animal welfare, interpersonal violence and animal cruelty, social ecological justice, One Health, and bioethics.

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for children with cancer and their parents, as well as therapy dogs. Her background and primary interests center on human-animal relationships; animal welfare, sentience, and behavior; veterinary medicine; social and ecological justice; and One Health. She currently serves on the Boards of Youth and Pet Survivors at Children’s Hospital Colorado and the American Psychological Association’s HAI Section.