

Building the Science of Diverse Equine-assisted Services From the Ground Up

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The aim of this special issue of the *Human-Animal Interaction Bulletin* is to build the scientific bases of distinct types of equine-assisted services from the ground up. I also think of the issue's aim as breaking new ground. To introduce the issue, I delve into what it means to say that different types of equine-assisted services are indeed distinct. I also identify compelling sources of their distinctiveness and address why their distinctiveness matters a great deal scientifically. In presenting these topics in some depth, I hope to orient readers to the exact nature of the ground-breaking nature of the special issue's articles.

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This paper is based on a keynote address delivered to the inaugural research conference of the Horses and Humans Research Foundation in Spindale, NC, on October 30, 2021. The title of the address was, *The Horses and the People Are the Magic: Building the Scientific Bases of Diverse Equine-assisted Services*.

Distinct Types of Equine Assisted Services

In 2020, a consensus document was published that provided guidance to stakeholders on optimal terminology for naming and identifying diverse services that incorporate horses to benefit people (Wood et al., 2020). Optimal terminology was recommended for 12 main types of equine-assisted services (Figure 1). Pervasive evidence suggested that these 12 types of services are being provided in the United States to persons of nearly all ages, from toddlers to the oldest old, and often for immensely diverse reasons and purposes. The horse is the common thread across all 12 types of services.

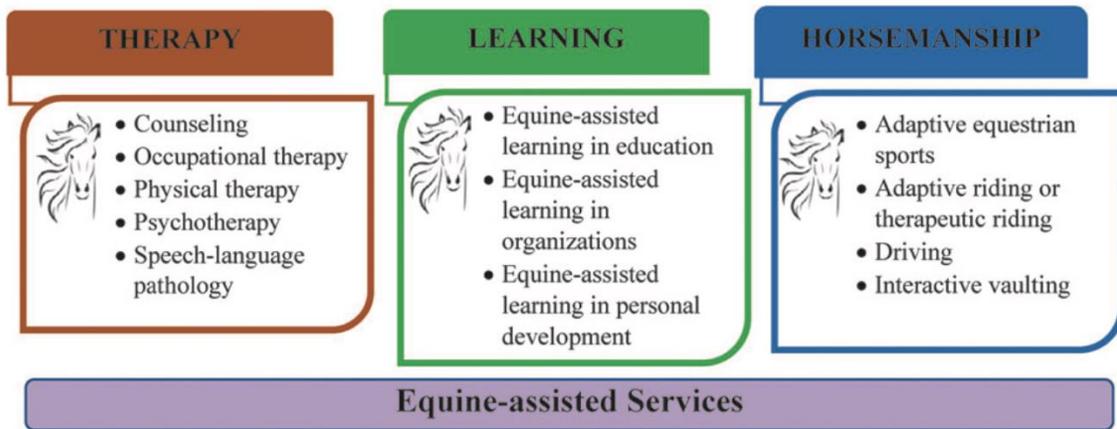


Figure 1. Recommended optimal terminology for 12 distinct types of equine-assisted services (Wood et al., 2020)

There was also consensus that each of the 12 main types of equine-assisted services is distinct in its own right (Wood et al., 2020). Moreover, what is distinctive about each main type remains even though all 12 types share the horse as a common thread. Hence, what is distinctive about each type of service holds true even as other types have readily observable likenesses. These likenesses, among others, can include similar uses of riding and other horsemanship activities, similar ground work with horses, and similar uses of other interactions with horses. Surface comparisons alone thus often fail us. That is, they fail us when it comes to discerning what is crucially distinct about each main type of service, and why such distinctiveness matters scientifically.

It is therefore helpful to consider the sources of variation that account for what makes each service distinct in its own right. While many more likely exist, at least three sources of variation are particularly evident and powerful. Two of these sources focus on providers: the broad areas of professional work with which providers are affiliated, and the discipline-specific education and practice requirements of providers. The third source of variation focuses on the living beings who are front and center during the delivery of various equine-assisted services, human and equine alike.

One Source of Variability: Broad Areas of Professional Work

The broad area of professional work with which providers are affiliated is a persistent and powerful source of variation. In the consensus document, the most prominent broad areas of professional work were identified as therapy, learning, and horsemanship (W. Wood et al., 2020). In addition, five different services were directly related to therapy; three different services were directly related to learning; and four different services were directly related to horsemanship (Figure 1). This association of distinct services with particular broad areas of professional work focuses attention squarely on providers. It is providers, after all, who are situated in any given broad area of professional work. Consequently, the services that particular providers offer reflect the approaches to education, training, apprenticeships, certifications, licensure, or the like, which are expected or normative within their broad area of professional work.

In this special issue, the manualized intervention of adaptive riding for youth with anxiety studied by Seibel et al. (2021) and Hoagwood et al. (2021) stands in direct relationship to the professional work area of horsemanship. This is because therapeutic riding instructors who had earned certifications from the Professional Association of Therapeutic Horsemanship International were its providers. These two studies also show how interdisciplinary collaborations can inform promising non-therapy services (see also studies on therapeutic riding by Gabriels et al., 2012; 2015). In the studies of adaptive riding reported here (Hoagwood et al.; Seibel et al.), mental health professionals and researchers with expertise in cognitive-behavioral therapy and equine specialists collaborated to infuse cognitive-behavioral elements within the design and implementation of adaptive riding for youth with anxiety. Yet because no licensed therapy professionals implemented this quite promising approach to adaptive riding, it does not constitute an actual “therapy” nor is it related primarily to the broad professional work area of therapy. This rationale becomes clearer when considering the next major source of variation.

Another Source of Variation: Discipline-specific Education and Practice Requirements

Like broad areas of professional work, discipline-specific education and practice requirements are persistent and powerful sources of variation among different types of equine-assisted services that focus our attention squarely on providers. These sources of variation also help to explain why no two types of equine-assisted services are essentially one and the same, even two types that relate to the same broad area of professional work. To illustrate, consider three contributions to this issue that relate to therapy as a broad area of professional work.

First, in her conceptualization of psychotherapy incorporating equine interactions in the United States, Ekholm-Fry (2021) identified six mental health professions in the United States that provide graduate training in psychotherapy. Graduates of these programs—namely, clinical social workers, professional counselors, clinical and counseling psychologists, marriage and family therapists, psychiatrists, and psychiatric nurse practitioners—develop strong professional identities through their particular graduate and post-graduate studies. Throughout their careers, moreover, such graduates are guided by clear and legal determinations of practice standards and ethics pertaining to psychotherapy within their particular professions. Thus when these therapy professionals choose to engage clients in interactions with horses, they do so as a technique that can enhance their existing approaches to psychotherapy. And once again, their existing approaches reflect the disciplinary perspectives and standards of practice and ethics of their profession.

Ekholm-Fry’s (2021) conceptualization thus helps to explain why the service studied by Berg, Bach-Gorman, and Hammer (2021) and the service studied by Peters, Bentele, and Wood (2021) substantively differ, even though both clearly relate to therapy as a broad area of

professional work. To begin, the study by Berg et al. (2021) was of psychotherapy incorporating horses to address anxiety in women college students. The research team designed this intervention based on the EAGALA model of psychotherapy. The intervention was thus collaboratively implemented by a clinical counselor with a PhD in Counselor Education and a veterinarian, both of whom were EAGALA certified and had extensive years of clinical experience in their respective professions. Further, the group psychotherapeutic approach that involved equines was viewed as an alternative to psychotherapy delivered in a student mental health center. In other words, it was not considered its own unique standalone type of therapy nor any generic so-called equine-assisted therapy. Rather, it was psychotherapy that incorporated horses to help women college students alleviate symptoms of depression and anxiety, and enhance self-compassion.

By way of contrast, the study by Peters, Bentele, et al. (2021) was of occupational therapy in an equine environment for youth with autism. Its main providers and designers were therefore occupational therapists, not mental health professionals. But just as mental health professionals have qualified themselves to practice psychotherapy, so, too, have occupational therapists qualified themselves to practice occupational therapy. Similarly as well, occupational therapists are required to practice within their particular profession's scope of practice and ethical standards, and to meet its particular requirements for licensure and continuing education. Thus, the occupational therapy intervention that Peters, Bentele, et al. (2021) meticulously describe was informed by their understandings of the philosophy of occupational therapy as well as by current theory and evidence-informed strategies for best practices for youth with autism in occupational therapy (see also Kalmbach, Wood, & Peters, 2020; Peters, Wood, Hepburn, & Bundy, 2020; Peters, Wood, Hepburn, & Moody, 2021).

More Contextual Sources of Variability

Last but not least, a host of additional contextual factors are powerful sources of variability, beginning with the humans and equines involved. These living beings are not only diverse in nature, but they also render most all types of equine-assisted services quite complex in nature. Complex in delivery, and also complex from a research perspective.

Having previously focused on contextual factors that influence *what* types of equine-assisted services providers may implement and how, I focus here on participants in services. And indeed, owing to their differing abilities, wants, needs, hopes, goals, life challenges and life circumstances, *who* receives particular services shapes in fundamental ways how these services are delivered. Thus who receives a service explains why so many variations on same types of services are developed. For example, the design and implementation of adaptive riding for youth with anxiety (Hoagwood et al., 2021; Seibel et al., 2021) vary greatly from the design and implementation of adaptive riding for adults living with dementia (Lassell, Fields, Busselman, Hempel, & Wood, 2019; Lassell, Wood, Schmid, & Cross, 2021). Yet both versions of adaptive riding “stay true” to what adaptive riding essentially is; namely, a non-therapy service in which trained instructors skillfully adapt riding and other horsemanship activities so that their potential benefits become accessible to persons with special needs (W. Wood et al., 2020).

Altogether, the evidence and rationale supporting the distinct nature of each of the 12 identified types of equine-assisted services, as well as variations of each main type, are compelling. So compelling, that the principal recommendation in the consensus document was: *stakeholders need to accurately and precisely name and identify each distinct type of service that incorporates horses to benefit people, and to accurately distinguish among different types of equine-assisted services* (W. Wood et al., 2020). The implications of this recommendation for research are

considerable, and they lead to the necessity to build the scientific bases of specific types of equine-assisted services from the ground up.

Building the Science from the Ground Up

What does it mean to build the science from the ground up? I turn to experts in intervention research at the National Institutes of Health (Smith et al., 2007), the Medical Research Council (Craig et al., 2006), and authors on the subject (Fleury & Sidani, 2007). What I've learned from these experts is that building the science from the ground up means that we adopt systematic and phased approaches to research and start at the beginning. At ground level. It is at ground level that we determine the critically important first steps for best practices in intervention research. In particular, we clearly identify and fully elucidate the exact nature of the interventions we are starting to study.

Unfortunately, however, most authors over the past 30 years who have incorporated horses in human services have paid little heed to the necessity of these foundational steps. I came to this conclusion based on findings from five systematic mapping reviews, conducted by my colleagues and I, of relevant peer-reviewed research (Kinney, Eakman, Lassell, & Wood, 2019; McDaniel Peters & Wood, 2017; Peters, Wood, & Hepburn, 2019; W. Wood, Fields, Rose, & McLure, 2017; W. H. Wood & Fields, 2019). These reviews involved comprehensive database searches, and extensive analyses of nearly 150 studies published from 1990 to 2019 that met our inclusion criteria.

The good news is that this large body of research suggests that specific interventions show promise and merit further scientific development. Many answers to that all important question - *Why the horse?* - were also hypothesized and explored. Participants, providers, consumers of research, funders, and reviewers of journal articles and grant proposals seemingly all want answers to this question. So, *why the horse?* Some hypotheses reference the positive social qualities that horses offer as prey animals, or the qualities of their movement, warm bodies, and non-judgmental natures. Others emphasize the calming effects of horses. Still others highlight the sensory experiences and experiences of mastery and self-efficacy that often arise when around horses, riding them, caring for them, simply being with them, or performing other assorted horsemanship activities. Thus, the research legacy we have inherited holds promises and informs us in important ways.

But this legacy is also lacking in troubling respects. Most problematic is the preponderance of what Fleury and Sidani (2007) called “black box” approaches to intervention research. Black box approaches are those in which researchers jump to measuring outcomes *before* elucidating an intervention's theory of change. Thus, the interrelationships that exist among the problem, the intervention, the mediators, and the outcomes—the essential components of a theory of an intervention—are unclear; hidden in a metaphoric black box that occludes our vision. In our particular legacy of black box approaches to intervention research, we can peer into the black box of many, many studies enough to make out the horse. But we cannot discern much else.

Perhaps nowhere is the overwhelming predominance of black box approaches more glaringly apparent than in how interventions involving horses in therapeutic services for people have been named and described. Generic horse-centric labels have ubiquitously been applied to a very large number of what are, in actuality, meaningfully different interventions. The most prevalent misapplied and misleading terms throughout the literature are equine-assisted therapy, equine therapy, and hippotherapy. But there is also horse therapy, equestrian therapy, therapy riding, horseback riding therapy, and even equine assisted activities and therapies therapy and its

first cousins, EAAT therapy or simply EAAT. The problem with longstanding uses of these generic horse-centric labels is that they deeply confuse consumers, their advocates, funders, policy makers, and the general public. After all, “no health profession, standards of practice, nor licensure regulations are known to exist for any single form of therapy” called by any of these horse-centric terms (W. Wood et al., 2020, p. 2). But the problem is also a scientific one because generic horse-centric terms lack scientific precision and validity.

For example, one of our systematic mapping reviews encompassed 78 studies of so-called “hippotherapy” (W. H. Wood & Fields, 2019). After carefully unpacking all of these studies, it became clear that “hippotherapy”, as represented in the studies, likely more accurately encompassed six distinct types of equine-assisted services: physical therapy, occupational therapy, speech-language therapy, counseling, equine-assisted learning in development, and therapeutic riding. This is problematic.

After all, the American Hippotherapy Association (AHA) regards the manipulation of equine movement, or hippotherapy, as a possibly helpful therapy tool that licensed occupational therapists, physical therapists and speech-language pathologists may choose to use. AHA therefore stresses that there is no such thing as a legitimate standalone therapy called hippotherapy. Rather, when occupational therapists, physical therapists and speech-language pathologists incorporate equine movement as a therapy tool, they do so along with other therapy tools in comprehensive plans of care. As previously stated, they are also guided by the scope of practice and the ethical standards of their respective profession.

Breaking New Scientific Ground

Rather than applying misleading labels like hippotherapy or equine-assisted therapy, the authors of the five research studies in this special issue used precise and accurate terminology to name and describe the interventions they studied. Thus, we now have these crystal clear labels and descriptors: Adaptive Riding Incorporating Cognitive Behavioral Elements for Youth with Anxiety (Hoagwood et al., 2021; Seibel et al., 2021); Occupational Therapy in an Equine Environment: Harnessing Occupation for Self-Regulation, Social Communication and PLAY in Youth with Autism, or OT^{ee} HORSPLAY (Peters, Bentele, et al., 2021); and Psychotherapy Incorporating Horses to Address Anxiety in Women College Students (Berg et al., 2021). Terminology such as this communicates the distinctiveness of each intervention. Such terminology positions stakeholders to easily search for or identify follow-up studies, allowing for scientific development of the same focused track of research. Related to adaptive riding for youth with anxiety, for example, Siebel et al.’s fidelity work serves as a necessary and recognizable building block of Hoagland et al.’s exploratory randomized controlled study.

Moreover, the authors of each of these studies attended not only to the contributions of the horses and their welfare, but also to the contributions of the providers. In the case of OT^{ee} HORSPLAY, the actions of volunteers and parents were also studied (Peters, Bentele, et al., 2021), as was the acceptability of the intervention to parents (Kalmbach et al., 2020). Dedicated attention to what both the horses contribute and their welfare *and* to what the human actors contribute or perceive marks an important break from the prevalent black box approach to previous research. Furthermore, dual scientific attention on the equines and the humans alike is essential if a particular intervention is to be implemented with a high degree of fidelity, and then subsequently replicated by different providers across multiple study sites in larger and more rigorous studies.

The two articles in the Practitioners Corner also broke new ground. Refreshingly, an article I have yet to mention by Fields, Peters, Merritt, and Meyers (2021) elucidates aspects of the research process that rarely make it into print. Namely, these authors detail what can be involved in building community and academic partnerships that aim to advance the science and practice of distinct types of equine-assisted services. An article by Ekholm-Fry (2012) can help mental health professionals conceptualize how, when, and with whom they might incorporate horse interactions as enhancements to their existing approaches to psychotherapy. Additionally, it discusses how to integrate horses in a way that clearly aligns with providers' particular professional identity and their profession's scope of practice and standards of practice and ethics. Ekholm-Fry's article may also help other licensed therapy professionals who are now integrating horses within their particular therapy practices or pondering doing so.

All told, the articles in this special issue of the *Human-Animal Interaction Bulletin*, from the ground up, break new scientific ground and offer guidance for the growth and development of the science of diverse types of equine-assisted services.

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