Membership

The Yoga Service Council’s mission is to develop a community of professional support in the field of yoga service and to engage in helping YSC members move from inspired to effective in using the tools of yoga and mindfulness to reach underserved and vulnerable populations.

Mission

By joining the Yoga Service Council (YSC) you help affirm four goals for 2014–2015: to increase connection between people active in the field of yoga service; to broaden the reach and effectiveness of our community; to deepen the professionalism of our collective work; and to strengthen the YSC’s capacity to provide leadership and opportunities for members. To become a member of the YSC, visit our website at www.yogaservicecouncil.org/join-the-yoga-service-council. Benefits of membership include subscription to the Journal of Yoga Service (JYS), discounts on conferences, and free listing in the JYS of your workshops and trainings.
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Yoga has inherent in it the concept of service. But as a professional field of endeavor, yoga service has only recently been identified as something different from mainstream yoga classes and from the field of yoga therapy. Although there is some overlap, perhaps the defining feature of yoga service is its focus on collective transformation rather than individual healing.

The field of yoga service began to take shape when a critical mass of yoga providers started sharing yoga in therapeutic and service contexts in the late 1990s. These built on the early scattered, pioneering efforts to use yoga to heal social and traumatic ills dating back to the 1970s. Countless individuals and small groups of yoga practitioners have brought yoga into social service, educational, and health care settings, and have begun collaborating with therapists, clinicians, frontline social workers, teachers, and others who deal in a professional capacity with trauma, loss, lack of privilege, poverty, and endemic poor health.

Then, as we began communicating and coordinating with each other, we started becoming a field. The formal evidence base for our work has grown, and the cultural shift toward greater acceptance of yoga has reduced some (but certainly not all) of the participation barriers. The world in general seems to be moving toward greater awareness of the need for compassion, from Nelson Mandela’s Truth and Reconciliation Committee to the growing intolerance of bigotry, abuse, and exploitation. Now seems to be a powerful time for those in yoga service to step into this opportunity to contribute to this change.

Helping catalyze yoga service as a growing field was the first meeting of the nascent YSC in 2009 at the Omega Institute, who generously donated its facility. Now, at the beginning of 2014, 280 organizations worldwide are dedicated to yoga service. We have an annual conference and a peer-reviewed journal. With this foundation in place we are no longer simply defining the field but also advancing it—an important shift that signals the forward momentum now occurring.

Toward this end, this issue begins with a letter from the YSC’s president, Rob Schware, who brings us an overview of last year’s conference along with his vision of the state of yoga service now and its opportunities and challenges going into the future.

An integral part of advancing the field is to identify best practices, which means developing a discerning eye for measurement and evaluation through formal research studies. This issue continues with part 2 of an in-depth exploration of how research is foundational to illuminate best practices in yoga service. You will also find in this issue detailed, practical advice on how yoga service organizations can conduct their own program evaluation—a form of research—and a description of an online tool for assessing the effectiveness of service organization networks.

Another critical part of advancing our field is making the transformative tools of yoga available to as many people as possible. Here we feature two research studies on special populations: a qualitative report outlining the challenges and successes of a yoga program in a homeless shelter and a report on how best to work with adolescents by including them in the process. We welcome stories from the field that document what has worked, and, equally important, what has not worked. A report in this issue on teaching in a military setting is a great example of this, and along with the research reports, documents the common requirement for yoga service providers to be adaptable, humble, and practice what they teach.

Advancing the field also involves being clear in our public outreach and education about what yoga service is, what yoga can and can’t do, and in our accountability and professional ethics. We also invite you to write on this topic.

Our evolution of the field is synergistic: working together, working within society, and co-creating with those we serve. I hope you enjoy the contents of this, our second issue.

Yours in service,
Kelly

Acknowledgments: I would like to thank the board for their continued support in producing this journal, including their input into this note. I also want to express my deep gratitude to Stephanie M. Shorter, who generously gives of her time and expertise as assistant editor of this journal.
I'm proud to be part of a growing movement of yoga service providers coming together as a community of professional support each year at the Omega Institute. At this conference we discuss at length ways to offer yoga practices to help us address some seemingly intractable individual and societal problems—including massive dropout rates of school kids, substance abuse among all age groups, post-traumatic stress disorder (PTSD) among veterans, and staggeringly high recidivism rates of released prisoners. We're bringing cutting-edge neuroscience, somatic psychology, and trauma research under the banner of the Yoga Service Council. I estimate that yoga service providers are reaching around 200,000 people annually, including abused women, veterans, at-risk children and teens, cancer patients, prisoners, and the homeless.

The plenary talk at the Yoga Service Council’s June 2013 conference was given by Bessel van der Kolk, medical director of the Trauma Center, a program of the Justice Resource Institute, and professor of psychiatry at Boston University School of Medicine. Dr. van der Kolk pointed out that mainstream culture has difficulty grasping the notion that changing one’s internal awareness and the relationship to one’s body can produce profound changes in mental states and in the underlying neurobiological circuitry. He commented that “the chemical paradigm is likely to predominate until we can produce solid data that yoga can change physiology, brain circuitry, neuronal pathways, and epigenetics.” He also presented data showing that a steady yoga practice leads to improved “cardiac coherence as measured by heart rate variability,” which is associated with stress resistance, coping with adversity, and decreased risk of cardiovascular disease and PTSD.

This is all well and good! But yoga is practiced by approximately 26,000,000 Americans, and although there is increasing clinical evidence that yoga has major health benefits, including for arthritis, cardiac disease, sleep problems, anxiety, and depression, it is still, I believe, a great challenge to introduce yoga into a medical community that is accustomed...
to scientific means and results. My hope is that yoga service providers will increasingly invite the board of directors and staff at hospitals for an experience in yoga and share some of the measurable effects this practical tool has on back and sleeping problems, high blood pressure, PTSD, and other medical disorders.

“Why are we here?” This was the simple question Beryl Bender Birch, founder of The Hard and The Soft Yoga Institute and the Give Back Yoga Foundation, asked participants as the conference opened. Describing what changes occur during our asana, pranayama, or meditation practice that help us to get off our mats and “give back” to our communities the benefits we’ve received through the practice of yoga, she noted that all yoga practices are about learning to pay attention. She told us, “It doesn’t matter if you chant, do asana, breathe, meditate, study, or scrub floors. The training is the same: learn to pay attention. As we get stronger at focusing our attention, we become more conscious, more aware. Attention drives transformation! Once we look around and see the state of things and realize that we are not separate but a part of it all, we really can’t help but give back.”

It is important to note, though, that many well-intentioned, fired-up yoga teachers want to give back and establish nonprofit organizations to support their work without having thought through some key elements: core values, core focus, strategy for fundraising and change, three-year picture, and marketing, to name just a few. After a year or two, many realize they can’t pay their bills while doing this work. Yoga outreach needs to be sustainable. Breakout sessions and lunchtime roundtable discussions at the conference deepened an ongoing conversation on this subject from differing perspectives of organizations, from adequately funding the start-up efforts of outreach organizations to greatly expanding their services by combining movement and mindfulness into single programs. The legal aspects of starting a new nonprofit organization, integrating yoga outreach with agencies and therapists, and using micro grants to increase diversity in the yoga community were just a few of the offerings. I think we all need to understand better what makes yoga service a sustainable operation where teachers and volunteers can thrive and be supported.

At this juncture, what I observe is the relatively small size of yoga outreach operations. Though service programs are growing, many are still local in reach, and affect people only on the order of tens or hundreds per year. Even after you have set up a yoga service nonprofit, it is even harder to become sustainable financially and to replicate your program. Sue Jones, founder of yogaHOPE and the Trauma Informed Mind Body Program (TIMBo), is achieving these in the public health field. She will be sharing her rigorous research and guidelines at next year’s conference.

We as a society will get our money back many times over if we invest in yoga programs. There is a huge potential return on investments if we implement yoga outreach programs systematically. For example, the cost of training and coaching 50 teachers in the Niroga Institute-based Transformative Life Skills program is $5,000, as presented at the conference by Niroga founder B.K. Bose. If even one child took a different path in life, equipped with greater levels of self-control, school engagement, and tolerance for distress, and did not end up in prison, the program would be worth the investment many times over. On average in the United States, it costs $29,000 a year to imprison an adult; it costs $45,000 in New York and even more in California.

This year’s conference gathering included 30 Yoga Service Council members who had been generously awarded scholarships by the Omega Institute to attend the conference. What I see happening in this dedicated group is that there are a lot of very enthusiastic yoga teachers who want to serve and who are bringing yoga into school systems, homeless shelters, refugee camps, prisons, and residential treatment programs for disturbed children and adolescents. It is most gratifying to see this!

The 2013 conference marked the release of the inaugural issue of the Journal of Yoga Service. This peer-reviewed journal provides a forum for sharing major advances, initiatives, and research in the field of yoga service as well as perspectives and discussions on topics of interest to those in the field. Like the conference, I view the journal as helping to define and provide credibility to this relatively new field. The Yoga Service Council is spearheading the mission to establish yoga service as a credible and respected practice by working with contributing authors who are skilled and experienced health, yoga, and spiritual educators. We owe a debt
of gratitude to our editor, Kelly Birch, who is constantly planning and shaping the journal, soliciting relevant submissions, and working with authors to refine their visions (including this letter!). I hope that you will consider submitting to the journal as a part of this burgeoning community.

Next year’s conference will focus on the idea of looking inward to become your most authentic and effective self in service. If you continue along the service trajectory, “freeing the prisoner inside yourself,” as my friend James Fox says, is intrinsically important to yoga service. It’s about walking your talk, working on your own behavioral issues, being personally accountable. It’s striving to live according to the yamas and niyamas.

If that sounds a bit daunting, I would just add that yoga service is also fun! At the coming conference I will share with participants a Give Back Yoga Foundation publication, Stories from the Field: An Inspirational Guide for Teaching Yoga to Underserved Communities. From the 70+ interviews I’ve conducted with yoga teachers around the world for the Huffington Post blog series Yoga: How We Serve, it is so readily apparent to me that yoga outreach efforts each week are a teacher’s most precious time. The personal growth and self-realization that comes from service is silver compared with the gold of simply sharing some down-to-earth yoga tools and allowing the process of self-empowerment and self-healing to unfold in those we serve. Increasingly, research suggests that, as the Dalai Lama famously said, if you want to be happy, practice compassion.

Please join us at the Omega Institute, May 16–18, 2014. And don’t hesitate to contact me at rschware@gmail.com if you have questions about the Yoga Service Council or if you would like to contribute to the Yoga: How We Serve series. 🌿
The first article in this two-part series (Shorter, 2013) started with the bedrock concepts in experimental design of reliability and validity. They were discussed in detail to reveal how yoga service research (more naturalistic) differs from mechanism-focused yoga research (more reductionistic) in important and complementary ways. The present article elaborates on what constitutes quality measurement in yoga research by introducing the levels of analysis, logical rules, methods of strong inference, and the container of yoga theory that are all required to confidently draw cause-and-effect conclusions between brain and behavior and to most powerfully advance the progress of yoga research and its applications to yoga service.

**Keywords:** Yoga theory, research, measurement, strong inference, linking hypotheses, levels of analysis

Yoga service and its research literature exist at the intersection of community service, empirical rigor, and therapeutic best practices delivered in a group setting. As such, yoga service touches upon many other academic traditions and healing professions beyond yogic techniques. To most effectively add to our collective understanding of how practicing yoga transforms individuals, this article will argue for the necessity of cross-discipline collaborations while using multiple research methods and testing alternate hypotheses in a way that is congruent with formal logical rules for linking behavior to the part of the nervous system that controls or transforms the behavior.

As with the first article in this series, several of the references cited are quite old. Some are considered classics, and some are all but forgotten! None have been previously applied within the field of yoga research. They are highlighted here as a way of pushing yoga research toward developing more fruitful and diverse approaches that will advance the applications of the knowledge we gain from research, such as designing more effective yoga service programming. A lot of value can be extracted from these older resources in experimental design, especially in reminding us what a solid foundation in the scientific method truly is.
In every field of human endeavor, there is a story of the collective behavioral patterns of people who have come together around a more or less common agenda (e.g., yoga researchers). Over time, the characters in that story develop their own norms and unwritten rules. The norm for contemporary scientists (in all disciplines) is to be more fact-and-method-focused in their work, rather than being explanation-focused; this norm represents a softening in rigorous execution of the scientific method today. Confronting this trend now while the field of yoga research is relatively young encourages the possibility of something different emerging within yoga research and yoga service.

The article will introduce alternative perspectives that augment or confront the norms of modern biomedical research. To answer the most challenging questions about how yoga can transform lives requires big vision, eclectic methods, and the collaborative piecing together of comprehensive theory that is atypical in science today. In particular, yoga service researchers are in a position to innovate when they embrace different methods and iteratively cycle between rounds of program design and evaluation, letting data and application merge and inform each other. The most ambitious goal of this article is that conversation will be sparked about how yoga research can break from the status quo of currently limiting research practices.

Yoga Research Can Be Significantly Different

Although yoga research reports are now being published at an accelerated rate as never before, the field is still in the mode of building its foundation. Critical work includes refining measurement methods (Bonura, 2013; Noggle, 2013) and moving toward establishing dose-response curves related to practicing yoga (Cook-Cottone, 2013). Terrific progress is being made.

On the one hand, there is great diversity in yoga research (both mechanism-focused and service-focused studies). Yoga research studies have been conducted on dozens of topics, and with participants ranging from young to old; these studies support the generalizability (external validity) of yogic techniques by making the case that yoga is a practice that can benefit the majority of people from all walks of life and in all states of health. On the other hand, there is also marked consistency across yoga research studies. Most studies involve self-report data (questionnaires) in pre-post designs (making comparisons across participants, a point that will discussed below) with yoga interventions of 8- to 12-week duration. They also mostly use conventional biomedical diagnoses as inclusion criteria for participants. As expressed by McCall (2010), developing interventions based on such reductionist criteria is counter to the fundamental tenets of traditional yoga therapy, a fundamentally holistic system. That is, yoga researchers are interested in studying the therapeutic benefits of practicing yoga, but carry out their studies in a way that categorizes participants in a one-dimensional manner that is counter to the treatment system and that discusses benefits in terms of group averages instead of what works for the individual. In effect, both yoga researchers and yoga therapists are mixing holism and reductionism. This East-meets-West mixture gives us our first hint at the conformity of yoga research to the conventional biomedical research paradigm: studying a holistic system through a reductionistic lens. Why has the field of yoga research adopted this mixed approach and how might it serve or limit progress in the future?

Yoga researchers have clearly established the generality of effects. Yoga “works.” But how does it “work?” The answer looks different at different levels of analysis—from molecular physiology to gross anatomy, from koshas to behavior, from individual psychology to social change. There can be multiple answers, and all are valuable in some way. Examining ourselves, it is telling what we personally value as a satisfactory answer to the question of how yoga works. Is the answer mechanical or mystical? Is it in the muscles or the chakras? Does the answer resolutely point to one important factor? Or does it reflect an appreciation of multiple interconnected factors working at different levels? Is it an explanation derived from data or is it something that cannot be tested?

The most radical approach to yoga research—and ultimately what might prove to be the most fruitful—will be an exploration of what connects the physical realm with the subjective interior of human consciousness and what governs the transformations we see occurring through the practice of yoga. These
connections and transformations are the unique terrain of mind-body research. Scientists have traditionally avoided experimental confrontation of the “mind-brain problem”—the question of how the mind and body interact (with body historically being limited to the brain as the seat of cognition and motivation). Historically, this problem has been left for pontificating philosophers to debate and for hard-nosed empiricists to avoid. To simplify their experiments, most scientists have removed the “specialness” of mind and consciousness (by adhering to a perspective called psychobiological monism). This omission of mind is a preference, not a requirement, and embracing the complexity of the age-old mind-body problem with modern technological tools may well be within the grasp of this generation of yoga researchers and the next. But to rise to the task, this complexity will call for every resource that we can make available to us. This article points the reader to some of those resources that already exist.

The good news is that yoga researchers are not venturing into unknown mind-body territory that is totally devoid of empirical landmarks and logical guidance, as will be discussed below. This article will provide a brief introduction to core concepts in how to accurately link behavior and brain activity. Examples will be mentioned from several classic references from other areas of scientific literature; work will be cited from authors who have studied in the vastly different domains of molecular biology to glacier studies but which, nonetheless, reveal a commonality in their integrity of explanatory method. Space prohibits going as deeply with each reference as could possibly be beneficial to the reader who is keen to adopt these tools. Therefore, this article must be a discussion-starter to point toward new areas that interested readers may want to explore more fully on their own.

Yoga researchers are right in the thick of the mind-brain issue, which comes with both positives and negatives. The privilege that yoga researchers have inherited is the possibility of shedding some light on the Cartesian conundrum of the mind-body split that has influenced Western thought since the 17th century, limiting the perceived acceptability of scientifically studying mind-body interactions. Yoga researchers also have modern baggage to carry—aspects of the current biomedical paradigm—that might prove burdensome over time. The following three examples reveal ways in which yoga research differs from the standard biomedical research approach. They are provided here to illustrate why yoga researchers should consider how the biomedical research paradigm can be limiting or even misapplied:

**Controlling for Mind-Body Interactions?** Yoga researchers are sometimes criticized for the lack of an adequate placebo control group in their studies. Control groups are necessary in yoga research, but placebo controls are often impossible. Study participants cannot do “sham” yoga to rule out the contribution of the mind-body connection like an inert placebo pill. Controlling for placebo effects (or other nonspecific effects) is taught as a necessity of biomedical research, and for yoga to look credible as a valid healing modality, yoga studies ideally would include an adequate control for placebo effects. However, deciding how and whether to implement sham yoga or sham healing is a challenge for yoga studies. Obviously, it is important to discern whether a yoga intervention contributes above and beyond placebo effects (and I am most definitely not saying that the effects of practicing yoga are due to placebos). It is difficult if not impossible to distinguish the nonspecific mind-body changes attributable to placebo effects from the intentional effects of the mind-body (yoga) intervention. Not just an undesirable nuisance, placebo effects are complex enough that they have sprouted their own field of dedicated researchers (e.g., Kaptchuk, 2011). After all, what is a placebo effect other than a case study of mind-body healing in action? When viewed as such, it makes less sense to argue that a mind-body intervention must subtract out the effects of the mind and body interacting. Measurement tools simply do not exist at that level of precision, yet the designs of yoga research studies are critiqued as if such distinguishing measurements were possible. Coming from certain critics, this may mask their more fundamental belief that mind-body healing should not be within the domain of scientific study.
Measuring Beyond an Effective Dose? Another instance in which yoga research does not fit the mold of biomedical research involves the optimal duration of interventions. As briefly mentioned above, effort is being put forth into plotting dose-response curves of the effects of practicing yoga. The majority of studies seem to be based on the assumption that 8 to 12 weeks of practicing yoga is a sufficiently long duration to be able to find statistically significant benefits across many measures (e.g., stress, anxiety, depression, etc.). This duration has now become customary in yoga research, as if anything less may not be enough to be “effective” (i.e., no significant pre-post difference) and anything more may be a “waste” of resources for the investigator. It could be argued that the custom has formed because of the adoption of biomedical research norms, where many interventions for human health concerns are drug interventions. The question being asked is typically this: what is the minimum amount of time before the bulk of study participants demonstrate a therapeutic effect? However, testing until the threshold of dose efficacy is reached is, of course, only part of the story. It makes perfect sense in a pharmaceutical context because after the point of efficacy drugs do not typically improve in their action (and may introduce or intensify their harmful side effects). In a yoga context, telling this effect-for-beginners part of the story is much less compelling than the rest of the story: tracking changes in yoga practitioners over time and studying specific practices with advanced practitioners. The positive effects of practicing yoga continue to accumulate beyond the minimum dose. Thus, yoga researchers would tell a more compelling story with longitudinal research designs.

As yoga practitioners become more attuned to their bodies over time, they also become more sensitive in what they are able to report about the effects of their practice. The possibility emerges for different research designs that are not achievable by using beginner practitioners for a limited period of time. For example, longitudinal studies of advanced practitioners can use different research designs (called within-subjects designs) to increase the power to find statistically significant differences.\(^1\) This different approach tracks practitioners for an extended period of time and uses them as their own controls (as they also become increasingly sophisticated in helping the researcher factor out or at least identify any effects that carry over from one testing condition to the next), instead of consistently testing new practitioners for only 8 to 12 weeks and making comparisons across groups of participants.

Losing the Individual in the Crowd? Finally, a last example of how studying yoga can be discordant with biomedical research norms is represented in the phrase used earlier: “the bulk of study participants.”\(^1\) Whereas most allopathic health care interventions are geared to work for the majority of the individuals sampled, this approach is incongruent with the traditional practice of yoga therapy, where the intervention is tailored to each individual. Therefore, in explaining the pattern of data collected in a yoga research study, it may be that the mean is misleading. The intervention might not have been well suited to most of the participants and averaging their data does not accurately characterize the experience for any of them (i.e., a statistical artifact has occurred). Taking the perspective of what works on average is counter to the more traditional therapeutic yoga approach of finding the optimal therapeutic strategy for each individual. In contrast,

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\(^1\) Formulas used in statistical tests are based on whether the study employs between-subjects or within-subjects comparisons. A between-subjects study involves two or more groups of participants being compared against one another; this design is used almost exclusively with beginning yoga practitioners and models the most common biomedical research design. In contrast, a within-subjects study design has individuals compared to themselves at different points in time; each participant serves as his or her own control. This distinction is not trivial because any measurement is tainted with some small amount of measurement error or noise. The formulas used in within-subjects statistical tests have the advantage that they can measure that error noise itself and, in effect, subtract it out. But this is simply not possible with between-subjects formulas; noise does not cancel across individuals. Therefore, it can be said that within-subjects designs are statistically more powerful (i.e., more likely to find statistically significant results when they exist). However, they are rarely if ever used in yoga research, but could be if the investigator is sophisticated in handling any carryover effects; this becomes possible when studying advanced yoga practitioners.
conducting a series of case studies and then later summarizing across their results is a sort of methodological compromise that allows for the best of statistical rigor (based on accumulating numbers that can analyzed together) with the best of tailored yoga therapy. As yoga therapy in the field, yoga service has to balance competing demands of using limited resources to serve as large a group as possible while adequately serving them as individuals. Yoga service providers, yoga researchers, and yoga teachers must then be more informed of the other fields in order to elevate the practice within their own.

Hypothesizing and Linking

Hypotheses and explanations of how yoga works look different at different levels of analysis. We can ask questions about yoga (behavior) and we can ask questions about the brain (the physical substrate of transformation). We really want those questions to converge until we know how a specific behavior being measured is correlated with or causally driven by a certain pattern of brain activity, and then how those interconnected principles are affected by practicing yoga. As if causally linking behavior to brain tissue were not already very complicated, we also have to factor in that every behavioral action of the nervous system immediately provides input back to the system (i.e., feedback from every behavior instantaneously changes the nervous system).

One way of simplifying this complexity is to start by addressing the goal of the behavior being studied. In other words, the goal of a behavior (in our case, practicing yoga) determines how you study it (Willems, 2011). Consider, for example, that many yoga researchers approach their topic with the belief that the goal of yoga is to improve physical wellness and that getting more people to practice yoga will result in a healthier society. Toward this end, the choice of using self-report measures to address perceived feelings of health at the behavioral level becomes obvious. The utility of comparing people who practice yoga with those who do not practice becomes obvious as well. From there, other questions may become obvious to two different researchers. What are the physiological changes that accompany this wellness? And what are the social impacts of groups of these individuals? From there, we enter three levels of analysis.

Marr (1982) observed that research on how the brain supports the emergence of complex human cognition and behaviors could readily be categorized on one of three levels of analysis: (1) computational (the goal, the why), (2) representational and algorithmic (the physiological software underlying the behavior), and (3) implementational (the anatomical hardware underlying the behavior). For example, the why of practicing yoga may be reducing feelings of stress, the physiology may be lowered cortisol levels, and the anatomy may be less muscular tension. All three levels of analysis complement each other and are interrelated. All three are absolutely needed because a full understanding of brain and behavior only emerges when questions are addressed at each level. Consequently, yoga research studies are important at each level in order for us to understand how yoga transforms brain and behavior.

These three levels of analysis are not fine-grained enough, however, to make tight arguments about the causal links between brain and behavior. For this, a set of logical rules called linking propositions (Teller, 1984) is required. The rules—based on logical identity, similarity, mutual exclusivity, simplicity, and analogy—tease apart what is a causal relationship between brain and behavior from a correlational association. They are the best rules we currently have to discover the wiring properties of the brain and how the brain controls behavior.

Strong Inference

Science is not defined by results. It is defined by processes—processes that investigate the true state of nature at all levels of analysis with deterministic logical rules. A fact is not inherently “scientific,” just as statistical significance is not inherently meaningful in terms of real-world application—points for yoga service providers to also keep in mind when reading yoga research. Some processes are superior to others and yield greater understanding of causation, and therefore are more useful for effective application in the field. These are the superior processes of strong inference, which achieves valid results through testing multiple alternative hypotheses.
and leads to increased replication (validation) of results and decreased confirmation bias.

Two articles published in the 1960s in the prestigious journal Science are rare articulations of the scientific process in its purest sense. What both pioneering authors were trying to do was pave the way toward quicker development in their respective areas of scientific study.

Platt (1964) coined the term “strong inference.” Almost like the practice of yoga itself, Platt’s article was a reminder for the scientist (practitioner) of what he or she already knows, uncovering what has become distraction. Strong inference, explained Platt, is an “accumulative method of inductive inference that is so effective” that its application is what distinguishes rapid growth from slower growth in a particular field of scientific research. He used the relatively quick growth in the then-new field of molecular biology as a case study. This method is the same basic outline of steps that we learned in science class in high school, yet all the steps are not generally carried out in modern research. When they are carried out, they are the path to making valid and powerful conclusions: strong inferences. Platt laid out the steps of strong inference and how to build logical trees:

Strong inference consists of applying the following steps to every problem in science, formally and explicitly and regularly:

1) Devising alternative hypotheses;
2) Devising a crucial experiment (or several of them), with alternative possible outcomes, each of which will, as nearly as possible, exclude one or more of the hypotheses;
3) Carrying out the experiment so as to get a clean result;
4) Recycling the procedure, making subhypotheses or sequential hypotheses to refine the possibilities that remain; and so on.

(p. 347)
Strong inference redirects a man to problem-orientation, but it requires him to be willing repeatedly to put aside his last methods and teach himself new ones.” (p. 351)

What Platt was saying is that new questions (and therefore new answers) can open up through the use of different methods. Solving the mind-body problem within yoga research will take new tools, new methods, and new questions to get at new answers.

Because the most meaningful scientific progress rests on disproofs—that is, being able to show that some hypotheses are false—then it is the duty of every experimenter to approach his or her topic of study with multiple hypotheses, ready to knock them down one by one as they are falsified. Investigators need to focus on the exclusion of hypotheses. Instead, what we find is that modern publications serially present the confirmation of one favored hypothesis. Studies that discredit their own hypothetical starting points or support the null hypothesis are basically nowhere to be found in print. Journals simply will not publish what has been falsified, even though such results are as logically critical as positive results.

Having access to information on null results is a goldmine for yoga service providers, yet that type of information is virtually never published and so programs are designed that may unknowingly repeat others’ mistakes. As Part 1 substantiated, the goals of mechanism-focused yoga researchers coming from an academic background can vary from yoga service researchers, especially with regard to immediate applications in the real world. Immediate guidance from null results that changes yoga service programming or avoids resource-draining mistakes are prime examples of this difference in research goals. Knowing what does not work saves time and effort in building a new program that might lessen

2 The habit of scientists not discussing null results is a trend within research publishing that no longer has its original justification. When peer-reviewed journals were print journals, page space was at a premium; editors could not justify allotting a portion of their limited pages (and printing budget) to printing null results. Therefore, null results were treated like unwanted trash—data perhaps relegated to gathering dust in a bottom file cabinet drawer, never to be seen by one’s peers. In the age of digital journals, where adding pages no longer adds to cost in the same way as before, useful null results deserve some page space. We learn about the boundaries of a theory by knowing what is true and also what is not true. A bias against the value of null results is consistent with the bias towards publishing self-contained descriptive facts that may or may not have applicability in the real world.
The terms “hypothesis” and “theory” are used interchangeably in daily conversation, but there is an important distinction based on the breadth and accuracy of knowledge. Fundamentally, a hypothesis is an educated guess about the way that something works; it is a prediction. A theory, on the other hand, rests on the back of verified evidence. It is a sort of meta-prediction: given that X, Y, and Z are already known to be true, then a higher-level explanation is offered to state the relationship between all the pieces of available evidence. A theory is a data-driven model of how multiple pieces of evidence fit together. Both hypotheses and theories must be testable and falsifiable.

stakeholders’ confidence with its less than stellar results. A null result is like a data contraindication. Again, we see a disconnect between yoga research practices that need to be resolved with the best practices of yoga therapy and yoga service, where contraindications—what poses not to do with certain individuals, what does not work or what might even harm—are treated as important knowledge.

Multiple Hypotheses

Testing alternative hypotheses is a critical component in making strong inferences as described by Platt’s step 2 above, which is related to devising a “crucial experiment” with “alternative possible outcomes.” Ideally, a researcher comes up with a design that allows for two (or more) hypotheses to be simultaneously tested while collecting data that will confirm one hypothesis and discredit another. This decreases confirmation bias.

Chamberlin (1965, a slightly modified reprint of the 1890 original text) is the primary source on the method of multiple working hypotheses. The more complex the phenomenon (such as linking brain, body, thoughts, emotions, and how all are affected by practicing yoga), the more critical it is to put multiple, competing hypotheses to the test in every research study that is conducted. Chamberlin went on to warn about the dangers of stopping, satisfied, when there is one confirmatory result. He pointed out the tendency to find the first reasonable explanation, make it the end of one’s investigation, and to not recognize that it may be a mere fraction of the whole story.

Chamberlin described the virtues of testing multiple hypotheses in his wonderfully colorful 19th century vernacular:

The use of the method leads to certain peculiar habits of mind which deserve passing notice since as a factor of education its disciplinary value is one of importance. When faithfully pursued for a period of years, it develops a habit of thought analogous to the method itself, which may be designated a habit of parallel or complex thought. Instead of a simple succession of thoughts in linear order, the procedure is complex, and the mind appears to become possessed of the power of simultaneous vision from different standpoints. Phenomena appear to become capable of being viewed analytically and synthetically at once. (p. 756)

This final quote is one of my favorites in the article. It seems that Chamberlin could also be describing yoga mastery: the ability to hold multiple viewpoints without being attached to any particular one and to see the whole picture from this perspective.

The Missing Container: Moving from Hypotheses to Yoga Theory

Research progress can happen in the absence of theory but will move faster with the anchoring and support of theory. Designing a study with strong inference techniques becomes simpler under the guidance of theory, which naturally spells out and prioritizes the list of questions that need to be tested.

The term “yoga theory” is used in this article to indicate a comprehensive model of the complex mechanisms related to all results of practicing yoga—from musculoskeletal to cognitive to digestive and everything in between. Yoga theory needs to be holistic, as yoga itself is, surveying the whole range of the benefits of the practice and building toward a fuller understanding of the entire range and interaction of benefits, not simply isolating a single active ingredient for a short amount of time, as in pharmaceutical research.

Talking about the need for an empirically testable and comprehensive yoga theory here is not intended to ignore or discredit the rich context that some yoga lineages have with theories about how to practice for a specified result. Kundalini Yoga offers a great example in this regard. Postures and kriyas are designed around the theory of what kundalini energy is, the conditions under which it is dormant or active in a person, and given that X, Y, and Z are already known to be true, then a higher-level explanation is offered to state the relationship between all the pieces of available evidence. A theory is a data-driven model of how multiple pieces of evidence fit together. Both hypotheses and theories must be testable and falsifiable.
Yoga and other systems do have their own theory—that is not being disputed or unappreciated here. What this article is calling for is a measurement-friendly, comprehensive yoga theory that encompasses all of those “subtheories” and moves us toward an understanding of the commonalities across them (across all of yoga) and how these practices change the nervous system, which in turn can change all aspects of behavior (from individual to widespread social effects).

It should also be acknowledged that some researchers have also broken ground on complex, empirically-driven “subtheories.” Streeter et al. (2012) is a noteworthy example here with their elegant work linking allostatic load, vagal tone, and GABA levels to several comorbid medical conditions. These authors showed that a pillar of the broader yoga theory needs to be allostasis and balance. These authors are an exception, however, because most yoga researchers are currently operating without the container of a theoretical framework. In the absence of direction from theory, we are assembling a puzzle piece by piece, without a sense of the picture we are assembling or the outer frame bounding the puzzle. Considering any piece in any order is reasonable under those conditions (testing one unrelated hypothesis at a time), whereas knowing that the pieces with flat edges are the outer perimeter and getting those boundaries in place to anchor and simplify the remaining puzzle construction is a better strategy if available (analogous to operating with the support of yoga theory).

**Studying the Whole Range of Transformation through Yoga.** Figure 1 maps the scope of what yoga theory will need to encompass. Yoga research, both service-oriented (“It works.”) and mechanistic-oriented (“How does it work?”), are placed at the center with the idea being that all of the other components feed into the yoga research literature.

Topics of study are on the left-right axis and represent the full range of the applications of practicing yoga, moving along a continuum of therapeutics (i.e., fixing what is “wrong” or negative) to optimization (i.e., enhancing what is “right” or positive). Like a number line with negative numbers, a zero point, and positive numbers, the expanse of therapeutic yoga (including yoga service) encompasses the entire continuum from disease to baseline wellness to elevating into high performance states. Few yoga researchers are currently attending to the possibilities of optimization, represented on the right side of the figure. Although the emphasis will likely always be on the left-side therapeutic topics, in the early stages of defining yoga service, we should recognize that the fullest expression of the field will contain the eventual development of right-side optimization techniques. As an analogy, many readers will be aware of how western psychologists focused on pathological states for many decades before anyone questioned why happiness had been forgotten in the

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*Figure 1. A map to start the conversation toward a comprehensive yoga theory that encompasses the range of therapy to optimization.*

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4 The terms “hy. In terms of levels of analysis, Streeter et al.'s theory spans both the representational and implementational levels with its focus on GABA and the vagus nerves.
field’s blind spot. Likewise, yoga service providers and yoga researchers should have an awareness of the field encompassing positive states, even if little clinical or research effort is currently being devoted there.

Different methods of inquiry are on the vertical axis of Figure 1. The vertical axis is neutral; the same method may be used therapeutically for alleviating negative conditions or for optimizing positive states. The upper constellation shows research methods. Neuroscience has been given special prominence because yoga is the repatterning of the nervous system and many questions from the yogic tradition can be answered with the tools of neuroscience. For instance, an electrophysiologist can discover how one can focus attention or enter an altered state where neural noise might be effectively filtered out (i.e., *pratyahara*), and a computational neuroscientist can address how predictable activity patterns (as a quantitative model of *samskaras*) emerge out of neural networks. Understanding the anatomy and physiology underlying neural communication helps us become more skillful in supporting others to find greater wellness and behavioral transformation through yoga. Within the figure, note that psychophysics is a method situated even closer to yoga research than is neuroscience. As the historical and conceptual basis experimental psychology, psychophysics is the quantified study of the impact of physical energy upon the sense organs (i.e., eyes, ears, nose, tongue, skin) and the sensations and perceptions (sensations with some subjective interpretation added) that are registered by the brain. Yoga research could fundamentally benefit from incorporating psychophysical methods because the way that yoga transforms is through increased awareness of and equanimity towards sensation. Psychophysics has a 200-year history of how to catalog and quantify changes in sensation, turning the subjective internal experience into objective data, which is precisely a method that yoga researchers need. Psychophysical measurements of behavior used in conjunction with neuroimaging (fMRI) can serve a unique role in the development of yoga theory.

The lower constellation of methods in Figure 1 can be conceptualized in three different ways: (1) as methods of self-inquiry and healing/transformation for the individual practitioner, (2) as methods to be employed by yoga service providers, and (3) as separate areas of literature of similar mind-body methods (i.e., separately published for mostly different audiences but substantially overlapping content). For instance, biomedical research on respiration can be of great utility for pranayama-focused yoga researchers or yoga service providers, and transformative movement modalities (such as Continuum Movement) and energy studies (see Oschman, 2000) can be invaluable tools for yoga service providers to incorporate into or at least inform their yoga teaching. These examples are prime areas for cross-fertilization of ideas and teaching techniques, as well as future research collaborations.

Most applications of therapeutic yoga occur on the left side of the figure (i.e., fixing what is wrong with the practitioner). Yoga service work is entirely localized to the left side of the figure. However, the potential topics on the right side should not be discounted; more development is needed here. After all, as the art and science of living, yoga can be the tool to move people from states of pathology to neutrality to thriving. Comprehending how yoga heals is only part of the picture; understanding how yoga leads to thriving and optimal states is also needed empirical ground for developing yoga theory.

**The Future of Yoga Research.** Figure 1 also gives yoga researchers a call to action. This figure serves as a proactive planning map for future studies that will gain the most traction in moving towards explaining causal mechanisms. It invites us to intelligently craft our collective habits of how we ask questions in yoga research and how we build networks that draw in collaborators from other areas of inquiry, including neuroscientists, psychotherapists, endocrinologists, oncologists, osteopaths, physical therapists, performance coaches, etc. Collaboration across multidisciplinary expertise is critically needed. Progress can also be catalyzed through lateral networks of collaborators (i.e., citizen science). In this age of crowdsourcing, and given that yoga practitioners tend to be highly educated, citizen science in yoga research is an opportunity that is ripe to seize.

What would a comprehensive theory of yoga research look like? Are we using the methods now that would allow us to most fully develop this theoretical framework? What are the methodological boundaries
that define the edges of our theoretical puzzle? And to what degree is multi-disciplinary collaboration necessary? The current article does not pretend to hold all the answers. For now, it has to be enough to invite others to entertain these big questions and hold some kind of map in mind that will carry the future of yoga research into fertile theoretical ground.

Conclusion

In summary, the most sophisticated mode of research is strategically question-focused, using multiple hypotheses from different levels of analysis to rule out alternate explanations, and moving toward building cumulative theory. Yoga researchers need to work multiple hypotheses simultaneously, to seek out evidence to discredit hypotheses, and to develop and refine the overarching yoga theory of our field. If yoga researchers were to develop these habits, they would be a powerful catalyst to understanding the promise of practicing yoga and the elusive details of how the mind-body connection works to transform individuals and communities.

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References


YogaHome:
Emotional, Physical, and Social Impacts of a Yoga Program on Community Homeless Shelter Residents

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This article reports on a qualitative analysis of semi-structured in-depth interviews conducted with 12 women and 2 men who participated in a community-based yoga program, run by a certified yoga teacher and a social worker, at a homeless shelter in a medium-sized city in the Midwestern United States. This restorative yoga program was developed in the shelter in response to the severe stress of being homeless and the chaotic nature of shelter life. Based on an analysis of transcribed interviews, the following themes were generated and discussed: Yoga as Relaxation, Stress Relief, Pain Relief, and Future Practice. The challenges and adaptations used when working with this population were stressed so that other programs might be developed to address the mental and physical health and social needs of the sheltered homeless.

The National Alliance to End Homelessness issued a revised report in 2011 about the state of homelessness in America. The most recent data reported therein are from 2009 and suggest that the majority of states have experienced an increase in homelessness in the last decade. Families are increasingly vulnerable to becoming homeless, as are veterans and people who have previously been incarcerated (Paquette, 2011). Severe housing-cost burden, unemployment, low annual income, and foreclosure have also increased. These factors contribute significantly to homelessness (Pasi, 2011). Nationally, about 19% of homeless people are considered chronically homeless. Lack of affordable housing, low income, mental illness, and disability are just a few of the reasons for this problem. People who are chronically homeless are also more likely to have mental health and co-occurring substance-use disorders (Davis-Berman & Farkas, 2012; Rickards et al., 2010).

Limited research has been conducted on the use of yoga with marginalized populations, such as people in poverty, incarcerated populations, and the homeless. It is quite difficult to design and conduct this research due to the transient and often inaccessible nature of these groups. Despite these challenges, preliminary evidence of positive impacts of yoga
on stress reduction and well-being among inner-city students and among incarcerated women has been reported (Berger, Silver, & Stein, 2009; Harner, Hanlon, & Garfinkel, 2010; Mendelson et al., 2010).

In response to the severe stress of being homeless and living in the shelter system, yoga programs have been designed as intervention methods to help people cope and improve their quality of life. For example, Street Yoga (www.streetyoga.org) was founded in 2002 at a day shelter and school serving homeless youth. Since that time, their yoga programs have focused on youth and families that are homeless, in poverty, and/or struggling with abuse, addiction, or trauma (Davis-Berman & Farkas, 2012).

Another program that has generated some preliminary research data is the Integrative Restoration Institute (iRest) (www.irest.us) yoga nidra program. This program attempts to integrate unresolved issues of mind and body using a 10-step protocol. The iRest approach has been applied to homeless populations in a few states, but most extensively within a program in California called Committee on the Shelterless (COTS) (www.cots-homeless.org). In collaboration with the Institute of Noetic Sciences, COTS offers and evaluates yoga programs within homeless populations. Two groups of homeless adults (n = 26) took part in a four to six week yoga nidra course. Multiple measures developed for this study were administered before and after the completion of the yoga intervention. It is difficult to fully interpret these data because only the responses of those who completed the entire program were used, and this number was not specified. The post-intervention data indicated that scores decreased on a number of measures, including anxiety, perceived stress, hostility, depression, and somatic symptoms. The report on this study talked about the difficulty in doing research in the shelter, because some residents left the shelter during the study for various reasons. There was no control group used in this study. Thus, one could argue that the changes observed were not a result of the yoga nidra program (Vieten, 2012).

Although some interesting attempts have been made to examine the impact of yoga practices within marginalized populations, numerous difficulties consistently emerge in trying to conduct this research. Small and often transient samples characterize research with the homeless. There is often a high dropout rate in the studies, making data collection and interpretation difficult. The selection of measurement instruments is also a challenge, because illiteracy, drug and alcohol impairment, and mental illness may be issues among the subjects.

A recent article (Davis-Berman & Farkas, 2012) addresses the challenges of designing and implementing a yoga program for homeless adults. What began as a structured yoga program in an urban shelter with a well-developed quantitative research plan became a more flexible program, with in-depth interviews used to collect data instead of survey instruments. The original plan involved a structured weekly yoga sequence, as well as the collection of data on depression and anxiety using survey instruments. The biggest challenge, from both a yoga practice and a research perspective, was the transient nature of the shelter population. Changing enrollment on a weekly basis made strict yoga sequencing impossible from one week to the next. Different levels of physical ability and various physical and mental illnesses were challenges to developing both the yoga sequence and the research plan. As a result, the use of quantitative measures was abandoned and in-depth interviews were employed. Although not a strictly predefined sequence, the yoga practice generally involved beginning with a short grounding meditation to help participants transition from the chaos of the moment to being present in the yoga room. This was usually followed by breath work and simple standing postures. All sessions ended with a short meditation and guided visualization (Davis-Berman & Farkas, 2012).

The present qualitative study is based on the same style of shelter yoga classes and the same face-to-face interview methodology used by Davis-Berman and Farkas (2012). It builds on the previous literature in that it focuses on applying the positive findings about the impact of yoga to an increasingly vulnerable segment of the population, the homeless. Shelter life is known to be extremely stressful and chaotic (Davis-Berman, 2011). The purpose of the present study is to examine the impact of an innovative yoga program designed to address this chaos.
Methods

Participants

Participants were selected from an overnight shelter (www.stvincentdayton.org) for women and children in a medium-sized Midwestern city. This shelter serves single women and mothers with children. Occasionally, married men stay in the shelter with their wives; single men are housed in a separate shelter. Following approval by the university’s institutional review board, the investigators met with the shelter director and obtained permission to offer a six-week yoga program. Yoga classes met once a week for 60 minutes in the shelter. The shelter director and case managers talked to the residents about the program and erected signs in the shelter announcing the day and time of the yoga program. The director compiled an initial list of interested single women who expressed a desire to participate. One of the investigators met with these women to explain the program and obtain their informed consent prior to commencement.

The women and children’s shelter has 220 beds. Single women are housed in a dorm setting, sleeping in one big room on small twin beds. These single women congregate in a large room during the day, with tables, a television, and laundry facilities. The women with children are kept separate from the single women at all times. In general, the shelter is spartan in appearance; security guards screen for weapons and other contraband items at the front entrance.

Participant Demographics

Twelve females and two males were interviewed for this study; all attended at least three yoga sessions in the program. Five of the respondents were White and nine were African American. Respondent age ranged from 19 to 59 years. This was a medically diverse sample: a few of the women had serious health problems, others were in wheelchairs, some struggled with substance abuse and mental health issues, and one was in end-stage kidney failure.

Program Description

The idea of a six week class structure with the same people in attendance was quickly abandoned, as participants indicated that they wanted a long-term program. Also, it soon became evident that the initial program design was not appropriate for the shelter population. Participants often had appointments that clashed with the yoga class schedule. Others were housed in the community without warning, and once people were placed in more permanent housing, they were not permitted back into the shelter to attend classes.

To adapt to these challenges, the program was switched to an open enrollment format where anyone who wanted to join the class during a particular week was welcome. At the beginning of each class, new participants were given consent forms to complete. The yoga program took place once a week in a small room adjacent to the large day-room in the shelter. All 60-minute sessions were taught by a certified yoga instructor and an assistant, who was a licensed social worker but not a trained yoga instructor. This program was restorative in nature, focusing on relaxation, breathing, and other stress-reduction techniques.

Classes began with a short grounding meditation to assist the participants in separating themselves from the noise and chaos in the shelter. Although not a scripted sequence, the yoga practice usually involved a warm-up of shoulders, spine, and hips. Depending on the participants in attendance, exercises included crescent moon, balancing poses, cat stretches, and leg stretches. All sessions ended with a short meditation series. It is important to note that class often included participants on mats and on chairs. Therefore, modifications for each stretch and posture were presented. For more in-depth discussion of the program and yoga class sequences, see Davis-Berman and Farkas (2012).

Data Collection

Participants who had attended at least three yoga sessions were interviewed using a semi-structured format by one of the investigators (the social worker). They were asked to talk in a general and open-ended way about their experience with the yoga program. They were also asked why they attended the program, what they enjoyed most about yoga, and what they enjoyed least about yoga. Respondents were then asked to discuss any physical, emotional, or spiritual impacts resulting from the yoga program. Finally, participants were asked what needed to be changed about the program and what, if anything, they might
take away from this program to use in life, either in the shelter or out in the community. Fourteen interviews were conducted; each interview lasted approximately 45 minutes.

Data Analysis

Interviews were audiotaped and transcribed for analysis. Topic coding was done by the investigator: Interviews were read and detailed topic areas across interviews were identified (Strauss & Corbin, 1998). Following this preliminary topic coding, codes were then abstracted into themes using the constant comparison method (i.e., systematic comparisons were made across codes), in which similarities and differences were highlighted. Themes emerged by combining similar or identical codes (Glaser & Strauss, 1967). By highlighting differences, unique themes emerged. An independent rater (the yoga instructor) examined the codes and themes. This was done to reduce bias in the interpretation of the transcripts and to serve as a check on the reliability and validity of the coding scheme and themes.

Results

Analysis of the transcribed interviews resulted in the identification of the following themes by both the investigator and the independent rater: Yoga as Relaxation, Stress Relief, Pain Relief, and Transference of Skills.

Yoga as Relaxation

Participants saw the yoga room and the weekly yoga session as a relaxing oasis from the chaos of their lives and the difficulties of living in a shelter environment. The room itself was bare, but it did have a window to let the sun shine in. The experience of an oasis was not a visual escape, but rather emotional and psychological. For many, the time spent in the yoga room was a welcome and refreshing respite from the reality of poverty and being homeless. Participants became friends and were supportive and encouraging to each other in the yoga room. Describing his experience in the program, Mr. L said, “Sometimes you just need that place where you can go and relax and this gives you that opportunity.” Ms. D expressed a similar sentiment when she described how she felt while in the yoga room: “It’s like out there is not even there. It doesn’t exist for whatever time I’m in here.” Finally, Ms. A’s comments provide some insight into the yoga room as a place to relax. She said:

This is where you relax, and have a good time. Lay it out, ya know? Just have a good time. Just get away from all of this conflict and bickering. I know why everyone is bickering—because they’re stressed out. This makes me forget I’m in a homeless shelter. One day out of the week. Quiet.

Stress Relief

Relief from stress was an important theme in the participants’ discussion. Although yoga class was only offered for one hour once a week, it seemed to serve as a vehicle to release stress for the attendees. Even one hour of stress reduction seemed to have made a difference, as participants would talk about the effect of class on their stress levels. Breathing techniques, movement, and visualization were used to teach stress reduction. A short meditation at the end of each class reinforced the impact of these techniques on stress and anger reduction.

Ms. F had been hit by a car and was still recovering physically and emotionally while participating in class. In talking about yoga, she said, “It relaxed my nerves for one thing. Every time I think about the accident, it cracks me up and I cry a lot.” Ms. B echoed this sentiment: “My favorite part was the relaxation where you just relax and be calm at the end.” She also talked about breathing techniques, saying, “I learned how to deal with my stress. When I’m stressed out in the corner, I scream or I just take a deep breath.” Ms. C described the impact of class on her emotions by saying, “When I came to class I was so stressed, and when I left, I was less stressed. My body is relaxed, and I could also go to sleep at night.” Finally, one respondent with serious physical health problems talked about the emotional impact that yoga had on her daily life. She said:

I love it. It’s relaxing and it puts me away from the hustle and bustle out there. My nerves are bad right now and I sleep through the night when I do yoga. I’m trying to get to my happy place.
Pain Relief

Many of the respondents were in physical pain at the time of the program as a result of illness, injury, or accidents. Others seemed much older than their actual age, with all of the aches and pains that often accompany a life in poverty. For them, participating in yoga seemed to help control and diminish their pain. One of the reasons that Ms. F began attending the program was to try to cope with the physical pain from being hit by a car. She reported that yoga helped her pain a great deal. Regarding yoga and pain management, she said:

The one thing I like is learning different rotations of the body. It helps a lot because I was hurting in my back and my leg...in multiple parts of my body. So, I said do it, it will just go away.

Ms. L said that the major reason that she starting coming to yoga was that she was in search of pain relief. She was relying primarily on a wheelchair to ambulate; she usually participated in yoga while sitting in a chair. She reported, “Yoga is really helping my back...seriously.” As she progressed with yoga, her flexibility increased and her self-reported pain diminished. Her only regret about the yoga program was “that y’all don’t come often enough. We have to wait until Thursday.”

Ms. H had braces on both of her legs and had a great deal of pain and difficulty with mobility. In order to participate in yoga she required assistance getting to the mat and getting up to a standing position. She said, “I'm supposed to be doing daily deep breathing exercises and stretching exercises for my bad leg and I just don't.” She went on to say that yoga class reminded her to take care of herself and stop being “self-neglecting.”

Transference of Skills

The most significant theme discovered in participant response to the program was the desire to apply the skills learned in yoga class to life outside of the shelter. When we planned this yoga program, we hoped that its impact would be felt outside of the confines of the shelter. The emphasis on breathing and gentle stretching sequences was an effort to teach techniques that could be used as coping skills at any time and in any situation. Knowing that living in the shelter was temporary, the transference of these skills to life in the community was essential.

Mr. and Ms. L were regular attendees and talked frequently about continuing to practice yoga after they were placed in the community. Ms. L said, “I would like to meet you guys somewhere else after we leave the shelter.” Mr. L was more direct about continuing yoga when he said, “I'd like to continue. I hope that I continue. Keep working out. Keep continuing. Find a class that I can get into.” Mr. A also talked about wanting to be involved in a formal yoga class after he left the shelter. He said, “I'm thinking how I can inspire other people to get in yoga classes. I want to extend the power of being relaxed, too.”

Ms. D saw yoga as her oasis from chaos. In thinking about leaving the shelter she said:

Well, I'd like to continue if I have to do it by myself or keep it up. I would like to join a yoga class. That'd be awesome. Three or four times a week would be lovely.

Those who did not express a desire to continue yoga still talked about the newly acquired techniques and how they could use them in their lives outside of the shelter.

Discussion and Implications

The themes generated from these semi-structured interviews support the idea that the yoga program had a positive impact on participants by increasing relaxation, reducing stress, and reducing physical pain. These positive results are important because the nature of doing yoga in a community-based homeless shelter makes research and program evaluation quite challenging. By allowing the participants to tell their own stories about their experiences with yoga, greater insights were gained. Participants' personal stories yielded much richer and more detailed information than would depression and anxiety inventories. Participants were also able to go into depth about their experience in the interviews.

These positive sentiments were surprising given the chaos in the participants' lives and the number and severity of the challenges that they brought to the yoga room. Many of the participants were physically
feeble, with broken limbs, dizziness, renal disease, poorly controlled diabetes, cellulitis, severe arthritis, and back pain. Most looked and seemed much older than their stated age. There were even participants who had recently had major surgery or who were in class with an oxygen tank. It was interesting to hear that despite high levels of pain, engaging in stretching, moving, and breathing seemed to make a difference. This was the case even among participants who attended only a few sessions. It was very moving to observe and to hear in the interviews that the physical movement in class was helpful to them.

The self-reported impact on the stress of the participants was dramatic. In learning to connect breath with movement, participants were able to relax; something that is often difficult to achieve in homeless life. Given the stress of living in poverty and sleeping and living in a group setting like a community shelter, the ability to relax is a major benefit. This relaxation even led to some participants falling asleep on their mats. It was inspiring to learn that participants could trust enough to be open to learning and practicing stress-reduction techniques like imagery and breathing.

This yoga program acted as an oasis for the participants. For one hour a week, worries were cast aside. Participants who regularly attended the program saw significant gains. Physical and emotional pain was lessened through movement, stretching, and breathing. Some participants talked about being able to move better, with less physical pain.

We believe that one hour of relief and respite was itself a victory, as participants talked about the stress reduction they felt after attending class. We hope that the gains made and the skills acquired will extend beyond the shelter walls: Future research could assess the impact of yoga training beyond the classroom hour.

Challenges and Adaptations

This program and our experiences as teachers and leaders have prompted us to think about challenges we encountered and adaptations we made in designing and executing this community-based program. We hope that our experience can be helpful to others as they implement yoga programs within marginalized populations.

Our first challenge was to let go of expectations. Yoga teachers usually encourage students to commit to their practice over time. In the shelter program, it became clear that we might only see a given participant one time. We learned to stay with a simple routine that could be repeated weekly, emphasizing breathing, relaxation, and meditation. It was also critical to be flexible; classes needed to be changed and developed based on the needs and strengths of those in attendance.

Another important challenge was to avoid getting attached to participants. They talked a lot during class about their lives, including sharing their various reasons for being homeless or their frustrations with the system. The participants had experienced so much pain and loss, yet they often dealt with it better than we did. Another unique challenge regarding attachment was that participants were often housed suddenly. It was not uncommon for us to arrive at the shelter only to hear that a yoga participant had been housed or had left the shelter for another reason. After leaving, the shelter guests were not permitted to return, even for a visit.

Teaching students with a wide variation in physical ability has been quite a challenge. We had five participants with broken bones, and three that we knew of were pregnant (one was eight months pregnant at the time she was in class). The average age of participants was 40, yet they seemed much older. Most were obese; many were struggling with addiction, mental illness, or were sick with colds and flu. Some had had serious surgeries. In any one class, at least half of the participants were unable to be on the floor; they had to work from rickety chairs. We adapted by developing chair movements that mirrored the movements of those working on the floor.

Finally, class discipline was sometimes an issue. Traditionally, yoga students are quiet, cooperative, and reflective. Our class was far from quiet; cell phones sometimes rang and participants took calls. Our adaptation was to stay present in the moment, use our intuition, and go with the flow. We tried to react to each situation without judgment; however, we made it clear that we need to maintain control, sometimes asking people to be quiet, to listen, or to turn off phones. Altercations in the shelter itself among resi-
dents and between staff and residents did not intrude into our space; having a classroom separate from the population was a boon. Considering the drug abuse, mental illness, and extreme stress experienced by the program participants, we had very few problems.

In conclusion, one of the greatest impacts of the YogaHome program has been on the presenters themselves (Davis-Berman & Farkas, 2012). We had to learn to be more flexible, both emotionally and spiritually. We found it necessary to let go of some of our judgments and beliefs, to get out of our safe and secure middle-class existence. We learned that one small gift of breathing could ease our frustration over the research and programmatic challenges. Despite the challenges, we enjoyed watching the participants relax. The most uplifting experimental results were the hugs that we received from people who have too little touch in their lives—those who are truly considered outcasts.

References


Middle School Students Provide Recommendations to Yoga Teachers
Co-Creating for Greater Student Engagement

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This qualitative study examined program recommendations made by middle school students participating in a series of yoga classes at an urban middle school. The research is intended to inform yoga teachers working with this population. Student feedback was collected using interviews, observations, and field notes; themes were then identified and categorized. The middle school students identified three key recommendations: (a) embrace the natural curiosity of middle schools students, (b) attend to cleanliness, aesthetic, and logistical needs, and (c) be a confident and collaborative yoga teacher. This article focuses on specific recommendations generated by participants. Inviting the middle school students to collaborate with their yoga teacher to co-create their yoga classes contributed to greater student ownership and engagement.

Keywords: Middle school students, pre-adolescence, student collaboration, program design, engagement

What can a sample of urban middle school students teach us about how the design of yoga programming can best meet the needs of other middle school students? Will their feedback reveal a disconnection between adult-designed yoga programming and what young adolescents need or desire from their yoga practice?

Given the potential for yoga to assist young adolescents with self-regulation, Malik (2008) emphasized the need for additional research on the impact of yoga on middle school students. Stevenson (2002) stressed that middle school students want to be successful people and are willing to explore new strategies to support their day-to-day self-regulation and success while simultaneously highlighting their desire for the freedom to move during their school day. Therefore, the implicit nature of middle school students and their developmental needs may naturally align with yoga practice.

Longitudinal research on middle school students has highlighted the ability these students have to understand their basic needs in a “sophisticated” fashion (e.g., Booth & Sheehan, 2008). Doda and Knowles (2008) reported that what adults often view as being supportive for middle school students and their success may not coincide with what
Middle School Students Provide Recommendations to Yoga Teachers

Knowledge of learning styles and self-perceived needs should be integral when designing a yoga service program for middle school students. It is important for yoga service providers to be aware of the potential disparity between their perception of the suitability of their existing yoga programming for middle school students and how the programming will actually be received by those students. The goal of the present study was to provide guidelines for the yoga service field directly from the voices of student participants who were involved in co-designing their yoga classes.

Methods
Participants

Participants (ages 11 to 14) were recruited from an urban middle school with a total enrollment of approximately 900 students in grades six, seven, and eight. This population and specific school site were selected because of (a) the researcher’s background working with and interest in urban middle school students; (b) the researcher’s knowledge that project participants had limited or no access to yoga classes at this school; and (c) the researcher’s position as the middle school principal and desire to provide this opportunity to the students. The majority of the students attending this school received free or reduced lunch and identified as a racial or ethnic minority. During this study, the middle school that these students attended was involved in a series of reforms to address lagging student achievement, attendance issues, and student suspensions from school.

This study emerged from a Diversity of Audiences Project, a required component of an advanced yoga studies program led by Scott Anderson of Alignment Yoga (Anderson, 2010). The purpose is to provide access to yoga for underrepresented populations. Populations may be underrepresented for various reasons, including access issues (e.g., lack of transportation, lack of income) and other factors that inhibit participation in a regular yoga practice (e.g., disability, language barriers).

A convenience sample of 65 students volunteered to participate in the yoga program and this qualitative, exploratory study. There was no control group.

Yoga Program Design

Recruitment to participate in free yoga classes took place in the school cafeteria during the students’ lunch period. Yoga mats were set out so they were clearly visible to students as they entered the cafeteria. During the lunch period, students were able to look through yoga books, observe various pose demonstrations, practice a pose, and learn more about yoga opportunities that were being made available to them. The researcher was present during the entirety of participant recruitment and guided interested students through brief yoga demonstrations. Flyers were also shared that contained information about when and where to come to try out a free, voluntary yoga class; flyers included the location, time, dates, and researcher contact information, and specified that participants needed adult permission to attend. In addition, flyers highlighted that participants who chose to attend yoga classes would be asked to share their input and opinions and that the yoga classes would not be “done to them” but instead “developed with them.” Furthermore, the voluntary nature of this project was stressed. Recruitment took place for a total of 10 days. In order to participate, students were required to obtain the permission of a parent or guardian.

Yoga classes were offered before (e.g., 7:30 AM – 8:00 AM) or after school (3:45 PM – 4:15 PM) two to four times per week depending on the schedules of the school, the students, and the yoga instructor. These time frames were selected to not interfere with the traditional school day. The majority of classes took place in the school gymnasium and were taught by the researcher. Because of occasional schedule and
space constraints, two classes took place at a yoga studio in a neighboring city and were led by a different teacher (also a certified and registered yoga teacher). Participants were transported to these classes via a school bus that was shared with other middle school students who were attending a field trip close to where the yoga classes were held. On these occasions, the researcher and the other yoga teacher communicated with one another regarding class sequencing and participant needs. All yoga classes were offered on a drop-in basis at no cost to the students.

Participants were informed that they would be asked to respond to questions such as “What might middle schools students look for in a yoga class?,” “What questions might middle school students have about yoga?,” and “What recommendations would you give a yoga teacher leading a class for students like you?” The participants were told that they would not be required to share specific thoughts about themselves, that they could respond to any questions posed in a broad fashion, and that their names and identities would not be linked to specific comments. The participants were aware that the recommendations they offered and their questions about yoga would potentially be incorporated into future classes as well as be shared with other yoga teachers either via an article or professional presentations in relation to planning and leading yoga classes that would best meet the needs of their demographic. In addition, the researcher spoke with the participants about her dual role as their principal as well as researcher and how this relationship could influence the study (e.g., initial rapport already established with some participants) as well as their responses to questions (e.g., potential to tell researcher what they think she wants to hear; Yin, 1994). A total of 65 middle school students attended yoga classes with 32 students (i.e., 19 female and 13 male) attending a minimum of 10 classes.

Various patterns emerged in participant attendance. Regular attendees (i.e., 10 or more classes) who attended before school commented on how they appreciated the opportunity to be able to enter the school building before the first bell to escape inclement weather during the winter months. For the middle school students to be in the building before school, they were required to be part of a scheduled event and be supervised. Attending yoga classes provided them with this option. To that end, various activities (e.g., breakfast, homework help with individual teachers, music enrichment opportunities) in addition to yoga took place before the school day. Therefore, yoga was not the only choice available to the participants. Regular attendees in after-school classes were active in after-school programming multiple days per week and lived close to the school or were able to take a late bus to transport to their residence. Many of these participants would attend a yoga class and then move on to another after-school activity. Eight of the regular attendees attended sessions both before and after school.

Participants who attended less than 10 classes did so for varied reasons. The most common of these reasons was the availability and schedule of the individual middle school student. Students were unable to attend classes due to the need to attend to schoolwork, to care for a younger sibling, to go to their job or sports meetings, or for transportation-related issues. Out of the 65 middle school students who attended one or more classes, 14 students attended only one class. Students who attended only one class were not pressed as to their reason. These students were advised that they were welcome to attend another class at a later date should they desire.

Each of the yoga classes were loosely based on the Alignment Yoga Recipe created by Scott Anderson (Anderson, 2010). Classes began with a check-in relative to one of the Three Fundamentals of Alignment Yoga (grounding, deep-commitment exhale, and relaxation of the palate). From here, participants engaged in a pre-yoga exercise to invite gentle movement into their bodies and ready themselves for the remainder of their practice. After pre-yoga, participants engaged in a pre-yoga exercise to invite gentle movement into their bodies and ready themselves for the remainder of their practice. After pre-yoga, participants engaged in a series of poses selected from the following categories: sun salutations, standing poses, inversions, arm balances, backbends, forward bends, twists, breathing, and rest. Class themes were selected based on what was taking place in the lives of the project participants and/or requests made during a previous class (see Appendix for an example).

Research Design

A descriptive, instrumental case study design
(Stake, 1994) was selected for a highly detailed examination of the students’ opinions and thoughts in relation to yoga programming within the natural setting of their school (Bogdan & Biklen, 1998). Guba and Lincoln (1981) state that qualitative researchers do not measure phenomena. Instead, they “emphasize, describe, judge, compare, portray, evoke images, and create for the reader or listener, the sense of having been there” (p. 194). In other words, qualitative researchers tell a story rather than perform specific measurements (Carter, 1993; Stake, 1994). Using this descriptive methodology, the researcher sought (1) to discover what types of yoga experiences might meet the needs of these urban middle school students and (2) to gather rich, thick, and descriptive data (Bogdan & Biklen, 1998) obtained through sustained contact with study participants over time in the natural setting, thus obtaining the insider’s point of view (Glesne & Peshkin, 1992, p. 52).

Unstructured interviews (Fontana & Frey, 1994), semi-structured interviews (Bogdan & Biklen, 1998), and probes—targeted questions verbally asked of the participant (Glesne & Peskin, 1992)—were conducted. In total, 41 unstructured and semi-structured interviews were conducted with 41 participants. Interviews ranged from 2 to 20 minutes in length. All interviews took place before or after school or during a non-instruction time for the student (e.g., lunch period, on a bus transporting to a field trip). An interview protocol with guiding questions was developed and used during semi-structured interviews. Additional interview protocols were developed in an ongoing fashion based on topics that emerged from previous interviews, observations, and field notes. Interviews served as a means to establish rapport with participants, to understand participants’ background knowledge in relation to yoga, to seek their input in planning their specific future yoga classes and yoga classes aligned to the needs of middle school students in general, and to provide the participants the opportunity to ask the researcher questions. In addition to unstructured or semi-structured interviews, probes were used as a way to follow up with participants to obtain clarification or further elaboration on a particular topic (Rubin & Rubin, 1995). Probes were conducted in person and were brief in nature. A total of 119 probes were conducted.

Finally, participant observation also informed the findings. Students were observed before, during, and after yoga classes by the researcher and brief notes were taken as time permitted. Both descriptive and reflective field notes were recorded. Descriptive field notes included information related to the setting, people, actions, and conversations observed (Bogdan & Biklen, 1998). Reflective field notes included researcher ideas, concerns, speculations, impressions, hunches, and prejudices (Bogdan & Biklen, 1998).

**Data Analysis**

Data were gathered until they became repetitive (i.e., adding more students did not add new data; Morse, 1994) and saturation occurred (Bogdan & Biklen, 1992). Data obtained through interview and observations were cross-checked with participants (Janesick, 1994). Cross-checking took place via interview probes and consisted of asking the participant to clarify what was meant by a particular comment and/or if an observation made by the researcher was consistent with the thinking of the participant. Lastly, data from each source (e.g., interviews, probes, observations, and field notes) were used to confirm or disconfirm data obtained from individual sources.

Data analysis was an ongoing process and evolved throughout this project (Merriman, 1998). Thematic analysis was conducted using an interpretivist framework (Bogdan & Biklen, 1998; Conrad, 1993). An interpretivist framework is anchored in the belief that researchers generate an understanding of the data based on how the participants understand and ultimately interpret their experiences. With an interpretivist framework, the meaning participants ascribe to their experiences is equally relevant (Bogdan & Biklen, 1998). Using an interpretivist framework, the researcher avoids generating themes in advance of the study but instead allows themes to emerge via the data analysis process. During this study, data was compared and contrasted in an ongoing manner with consideration given to representative data that emerged into themes as well as data that were contradictory to the emergent themes.

**Results**

Thematic analysis revealed three recommenda-
tions that middle school student participants have for yoga teachers seeking to bring yoga to their demographic. These recommendations are (a) embrace the curiosity of middle school students, (b) attend to cleanliness/aesthetic and logistical needs, and (c) be a confident and collaborative teacher. Each of these recommendations is discussed in further detail below.

**Recommendation – Embrace the Natural Curiosity of Middle School Students**

Participant questions about yoga were plentiful. Questions emerged during interviews and before, during, and after yoga classes. No restrictions were placed on when participants could ask questions. During yoga classes, questions were addressed on the spot or held until after the class when a potentially lengthy conversation could occur. Participants asked questions relative to the roots of yoga (e.g., “Who started yoga?” “Did yoga start in China?”) and whether yoga was a form of martial arts (e.g., “Wasn’t Bruce Lee into yoga?” “Can you get a black belt in yoga?” “Do you kick in yoga?”). Participants often requested an explanation of the rationale behind class themes or posture sequences. Over time, questions related to class sequencing became more complex. For example, participants questioned why backbends were followed by forward folds and moved from a desire for a description of the palate to why would one work to relax one’s palate.

Participant curiosity led to questions beyond their local context to that of a national context. For instance, participants wondered if others in their demographic were involved in yoga in different states. The researcher shared that there is a growing movement to bring yoga to the PreK-12 schools and that programs such as Yoga 4 Classrooms (Flynn & Ebert, 2013) as well as trends related to health and wellness (e.g., Michelle Obama’s Let’s Move! campaign) have contributed to an increased interest and knowledge base relative to incorporating yoga into schools. From here, some of the participants pressed further, asking which other middle schools (not elementary schools and not high schools) offered yoga classes and if these classes helped the middle school students that participated.

This questioning from study participants led to additional online research by the researcher in collaboration with a handful of study participants. Participants involved in this online research were regular attendees (i.e., 10 or more classes) who volunteered to be part of this process. From this research, yoga studies with small samples of school-aged participants to include students with disabilities (Cooper, 2010) and school-aged children with general health (e.g., asthma; Powell, Gilchrist, & Stapley, 2008) or mental health issues (Mehta et al., 2011) were reviewed and discussed. Based on this online research and subsequent conversations, the middle school students involved in this project concluded that there was limited research on the intersection of regular yoga practice and middle school students in an urban middle school. However, they located yoga organizations such as the Holistic Life Foundation (2013) and Street Yoga (2013). These organizations focus on bringing yogic practices to underserved demographics. Knowing this information, the participants indicated they felt validated knowing that others in their demographic are involved in yogic practice. On completion of their online research, participants shared their findings during one of the yoga sessions. Moreover, one of the participants indicated she planned to utilize her research as part of a project for a social studies class.

In summary, the participants had a desire to learn and converse about yoga in an intellectual manner (appropriate to middle school students). Participants wondered if negative stereotypes related to middle school students often popularized via the media might contribute to a lack of focus on yoga with their age group. Participants often asked questions during the yoga class themselves. Questions and conversations that took place before, during, and after class were used to inform future classes. As the study drew to a close, participants indicated that to engage middle school students in a regular yoga practice, their teacher must be open to their questions and create an environment where questions are welcomed.

**Recommendation – Attend to Cleanliness/Aesthetic and Logistical Needs**

As mentioned earlier, most yoga classes took place in the school gymnasium. The gymnasium stage curtain was pulled shut because various other activities took place in the gym while yoga took place on
the stage. For the most part, the participants were not disturbed by miscellaneous school-related noises coming from the gym or the occasional announcement from the school public address system. Participants who attended multiple classes reported being able to “turn off” the noise as they practiced. Thus, a rickety stage with ambient noises was not problematic as long as their teacher informed them of what was taking place on the other side of the curtain.

A total of nine participants stressed the importance of a clean floor, with six of these participants making this recommendation on more than one occasion. The participants were bothered by the potential of bugs and did not want their yoga mats to be placed on a dirty floor. Participants continued to tell stories of classroom teachers who disregarded their concerns about “nasty” drinking fountains and being required to use a desk with profanity on the top and gum affixed to the bottom. Participants stressed that even an old, uneven stage floor could still be kept clean and that cleanliness elevated the seriousness and importance of their yoga practice.

Being able to use the same yoga mat on a consistent basis was important to the participants. None of the participants owned his or her own yoga mat but instead selected a “personal mat” from a bin made available for their use. Participants who regularly attended yoga class “claimed” their mats and made it clear to newcomers they were to wait and take a mat that didn’t belong to someone else. In addition, when yoga mat cleaner and paper towels became available, many participants wiped the floor before they would lie out their mat, wiped their mat before use, and then wiped their mat again after use. Consistently, mats were neatly rolled after class and placed back into the bin. Toward the end of the program, participants asked if they could write their names on their mat with a marker and whether they could have their mat at the end of the school year.

With that, participants highlighted that yoga teachers seeking to work with their demographic must be observant of contextually identified cleanliness, aesthetic, and logistical needs and make sure they are appropriately addressed. More specifically, when asked “what constitutes a clean floor?” participants described a floor that is swept before their practice and free of graffiti. In addition, the consistent use of the same yoga mat was important to participants to the extent they recommended regular attendees should be able to “earn a mat” via service to their school. Participants recognized the costs associated with yoga mats and were clear that the yoga teacher should not be responsible for shouldering this cost. However, participants were adamant that many middle school students would forgo yoga classes if they were required to share a mat with another student. A caveat did emerge when participants were pressed further about yoga mats; they hypothesized that middle school students would be open to sharing mats if their teacher assured them that mats were aptly sanitized after each use.

Participants acknowledged that needs associated with cleanliness, aesthetics, and logistics are contextual in nature. For example, middle school students who own their own mats or have access to yoga classes in a studio might identify disparate needs to study participants. Participants further stressed the value of engaging in a conversation relative to these needs if yoga instructors are genuine in their desire to serve this demographic.

**Recommendation – Be a Confident and Collaborative teacher**

Participants emphasized the importance of having a yoga teacher who was confident in his or her ability to lead a group of participants through a yoga class. In other words, the participants desired a teacher who could create and hold a container for their practice. To the participants, creating and holding this container involved the yoga instructor being explicit about the start and end time of each class and appropriately planning the class. Moreover, participants commented on the importance of a trusting relationship between their yoga teacher and the quality of their yoga practice. More specifically, participants embraced class themes and a teacher who was able to identify their areas of concern (e.g., pending tests, tight shoulders) and to ensure the corresponding class theme and poses addressed these areas. Participants highlighted that a yoga teacher must have the ability and willingness to redirect middle school students who were inappropriate with their language or ac-
tions during a yoga class. A firm, fair, and respectful redirection captured the participants’ attention and contributed to their confidence in their teacher’s ability to aptly lead them through the yoga class. Finally, participants commented that adults who work with middle school students—whether it be a yoga class or any class—must be comfortable redirecting them and not be scared of or intimidated by them if learning is to occur.

The participants were actively involved in creating yoga class themes and readily shared their opinions about their favorite poses. Poses that conveyed strength (e.g., warrior poses, horse stance with goddess arms), included balancing (e.g., eagle, tree, dancer), and released tension in the neck, shoulders, and jaws (e.g., thread-the-needle, reverse namaste, twists) were appreciated and requested. Participants also appreciated stories related to pose names and seemed to enjoy learning the Sanskrit names of poses. The participants identified collaboration with their yoga teacher to plan classes as a strength of the project and highlighted that the yoga teacher need not be a staff member from the school to engage in such planning. Instead, they stressed that the yoga teacher needed to be genuine in his or her interest to bring yoga to middle school students and willing to listen to their ideas and interests in planning classes.

Planning with the participants led to identification of specific poses that caused concern. For example, downward-facing dog pose was problematic for many of the participants due to potential sexual innuendo and a feeling of being exposed. Participants expressed similar concerns with the happy baby pose. That being said, participants were willing to include these poses in their practice, depending on how the physical space was organized (e.g., participants would move into downward-facing dog if their backside faced a wall versus facing a peer or empty space) and the use of carefully selected cueing.

Being mindful of pose selection was also necessary due the attire donned by the participants as well as their physical size. Attention needed to be given to participants wearing skinny jeans or jeans far too large for their frame. Moreover, low-cut shirts worn by female participants were common. Participants mentioned time and time again that not having to change clothes for a yoga class was important and could potentially contribute to attendance at yoga classes over time. In terms of physical size, many of the participants were obese. Thus, the participants looked to their teacher to select poses that included a continuum of challenge and could be adjusted to accommodate for clothing and physical size.

Throughout this project, many of the participants chose to close their eyes at the start and end of each class. However, they continually reminded the yoga instructor that many students might not feel comfortable closing their eyes. Thus, this should not be an expectation. Furthermore, the participants stressed that if they closed their eyes, it would be essential that they have confidence in the yoga teacher leading the class to ensure other students would not be staring at them or touch them/poke at them while they were resting. Finally, participants commented that they believe middle school students would be willing to come to a yoga class and take risks if their yoga teacher would smile, call them by name, and take the time to get to know them.

**Discussion**

Whether it be the traditional classroom setting or a yoga class, middle school students desire a teacher who is prepared, listens to their students, takes their concerns seriously, addresses their questions, uses their names, and smiles. This same teacher must also be able to redirect uncooperative participants in a firm, fair, and respectful fashion. In short, participants recommend a yoga teacher who knows how to work with their demographic and stressed that this teacher need not be a person of power (e.g., their principal in this project) or even a teacher from their school. Instead, this yoga teacher needs to be a teacher legitimately interested in middle school students. Successful teachers of urban middle school youth are kind and considerate while simultaneously assertive (Brown, 2002). Teachers as such invite the cooperation of their middle school students by sharing the “power” and working collaboratively to plan lessons that align
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to the interests and needs of their students. Therefore, a yoga teacher interested in serving this demographic might consider specific training related to the developmental, social-emotional, academic, and physical needs of middle school students, as well as training that addresses pedagogies such as planning with students and the use of student voice.

Stevenson (1992) stressed that middle school students want to be successful people and are willing to explore new strategies to support their day-to-day self-regulation. Stevenson's conjecture played out via this project. The participants were willing to engage in school-based yoga classes and provide input as to how these classes could potentially be tailored to encourage other middle school students to become involved and derive benefit. Moreover, one could surmise that the participating middle school students came to the class because they gained benefit from their attendance and took their participation seriously, given the thoughtful insights they offered, the questions they asked, and their observed behavior during yoga classes. Therefore, consideration relative to how middle school students receive information about potential yoga opportunities and providing students time to ask questions and gain a sense of what yoga is or is not before participating in a class may pique student interest and enhance initial willingness to try a yoga class.

Researchers have argued that middle school students will achieve when the adults who work with them are well versed in their educational, emotional, and social development and provide them with tools that align to these needs (e.g., Beane, 1993; Doda & Knowles, 2008; Stevenson, 1992). One of the participants in this project stated, “I told my art teacher that middle school yoga helps me with middle school. It is one of my strategies for success.” This suggests that a yoga practice facilitated by a teacher well versed in the needs of middle school students has the potential to be a tool that contributes to the success of this age group.

To replicate this project with participants in another middle school or in a community setting, consideration should be given as to how to provide participants the opportunity to lend their voices to their practice. Intellectually, many middle school students are moving from concrete to abstract thinking with a natural curiosity marking their day-to-day conversations (Knowles & Brown, 2000; Piaget, 1977). Thus, open dialogue between middle school students and their yoga teacher can afford the teacher the ability to use this natural curiosity as a means to engage them in a yoga practice. Moreover, open dialogue can provide the yoga teacher the opportunity to build a strong rapport with participants and to avoid situations that could turn participants off from a yoga practice. For example, participants involved in this project highlighted the importance of checking the space for bugs and being mindful when including poses such as downward-facing dog in a class. Participants in a different context (e.g., rural versus urban, low income versus middle-high income) may identify other concerns that the yoga instructor needs to address. It is through dialoguing with participants that contextual variables can be identified and addressed.

In closing, those interested in engaging urban middle school students in a yoga practice should consider the three recommendations highlighted by the participants in this project, specifically, embrace the natural curiosity of this middle school learner, tend to their aesthetic and logistical needs, and be a teacher who is confident and collaborative. While honoring these recommendations yoga instructors should simultaneously explore and honor variables specific to the middle school students and their local context. As highlighted in the National Middle School Association’s This We Believe (1995), “Consonant with their varying capacities to handle responsibility, students must be nurtured in making choices and decisions about curricular goals, content, methodology, activities, and materials…” (22). Thus, inviting middle school students to collaborate with yoga teachers on the development of yoga programs and classes contributes to student ownership and engagement. As potently stated by one of the study participants, “We’ll try things like yoga and take risks, but we are changing, and our needs are changing. You need to know our needs to make yoga relevant.” 🌿
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Appendix

Yoga For Rock Climbers: Climb On!

This class theme was selected by participants who were part of an indoor rock-climbing team. Poses were selected based on the physical and mental needs associated with rock-climbing.

• Grounding – An epic climb visualization
• Pre-yoga exercise – Dead Bug – to build core strength
• Hand exercises to build finger strength for pinching moves while climbing
• Standing poses – Warrior I, II, and III – to increase balance, stability, and stamina
• Arm balance – Crow Pose (student request)
• Twist – Seated Spinal Twist – to clear the mind before a challenging climb
• Rest – A return to the initial climb visualization
Do-It-Yourself Research for an Evidence-Based World: Evaluating Program Process and Outcomes

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Do-it-yourself (DIY) research projects can play a key role in expanding yoga services and developing yoga resources in underserved communities. This paper outlines motivations for gathering data and introduces methods of inquiry, evaluation strategies, and tips for how independent practitioners and smaller programs can get started. Setting achievable goals, exploiting accessible data sources, and ethical considerations in the research process are covered. Links to publicly available research tools and scientific academic databases are provided.

Keywords: independent research, program evaluation, online tools, measuring outcomes

Bringing yoga to underserved communities is hard work. Dedicated yogis focus on customizing programs for special populations while balancing the needs of sponsoring institutions. Months and years may be spent before a yoga practitioner or program is prepared to reach a targeted community. In the current climate of reduced budgets and increased workload, it takes more than good intentions and quality programs to deliver yoga to those who need it most. Funders and policy makers prioritize initiatives that lead to proven outcomes. Yogis are now being called upon to produce evidence.

Schools, hospitals, prisons, and community centers are all being asked to show that programming is implemented as planned and that participants are receiving benefits. Evidence-based practice has become the standard among providers who vie for precious resources, often referring to an identifiable set of interventions and programs that have been deemed “evidence-based” by an objective body of rigorous, controlled research. However, the notion of evidence-based also refers to the collection and analysis of research data that indicate promising practices, even if they are not formally recognized as an evidence-based practice. The term is so commonly used that it leaves caseworkers, caregivers, and educators to struggle with a meaningful interpretation of what constitutes evidence. Fortunately, the 2013 Yoga Service Conference (YSC) introduced experts from science and academia to help yoga service providers figure this out.

Inspiring yogis to “do it themselves” was the mission of this year’s DIY Research Workshop hosted by Kelly McGonigal, PhD. Dr. McGonigal is a professor of psychology at Stanford University and her research on self-regulation, mindfulness, and compassion has
been widely published in psychological and medical journals. As a leading contributor in the field, Dr. McGonigal is familiar with the mission of translating research into accessible strategies for health, happiness, and success.

The workshop was both practical and motivational for those who want to do research. As the DIY title implies, it explored opportunities for researching programs and populations within local initiatives. A cross-section of YSC attendees shared in the discussion of techniques and strategies for conducting scientifically sound research and sharing evidence. Yoga instructors, program administrators, writers, social workers, and policy advocates learned straightforward methods during this workshop. The overall message was one of clarity and simplicity: organizations of any size can conduct valid research, and resources exist to make it possible. This article distills the essence of the workshop for those who could not attend and offers ideas and strategies on how to get started.

**Understand Your Motivation**

Conducting research is a challenging task. Time, energy, and money may all be required to answer the questions we are being asked: *How does your program work? What results does it deliver? Who benefits? How much? Why?* Answering such questions goes beyond articulating a vision, mission, or what we believe. In an evidence-based environment, these questions must be asked scientifically and systematically. Outcomes and processes need to be examined in a planned, controlled way. Understanding your motivation to tackle the burden of research is critical to directing your efforts. You may find that your DIY research is motivated by one of three reasons. Each is described briefly below.

**Reason 1 – Self-evaluation**

The first reason is a desire to evaluate or improve a program. Instructors and administrators shape a program to achieve its goals and targeted results, but research is needed to determine whether program components correspond to measurable outcomes, or *evidence*. Monitoring fidelity to a program’s structure, observing processes, and measuring outcomes help to assess the effectiveness of programs. Research that is intended to document, measure, or improve processes or outcomes is called *program evaluation*. This branch of applied research is useful to yoga service providers, who are often called upon to describe and defend their programs.

**Reason 2 – Funding**

A second reason to conduct DIY research is to secure funding or institutional support for your program. Whether delivered through schools, social centers, or treatment facilities, yoga service programs may be eligible for funding through government or institutional grants. The competition for grants is tremendous. Further, most social wellness programs require research-based evidence. Funders want to know that their investment is achieving intended goals. Reviewers of grant applications prioritize programs that demonstrate data. In a resource-restricted economy, only programs that measure their success and use research to improve practice will survive.

**Reason 3 – Dissemination**

The third motivation for conducting research is to disseminate findings. Research stakeholders understand that publishing and presenting research results leads to increased credibility and visibility. Scientific and academic journals, conferences, and mainstream media outlets can all be useful vehicles to share a program’s successes. Consideration for these valuable opportunities is achieved by offering data-driven findings.

Whether your motivations are self-evaluation, financing, or dissemination, it is critical to know the current cutting edge of research and practice. Reading relevant literature will indicate what is already known, what is currently being investigated, and which methods have been used with success in similar situations. Connecting with others who are conducting similar research and programming can also be a shortcut for DIY researchers.

**Survey the Landscape**

In recent decades, the Internet has helped to make research broadly accessible. While there are many ways to conduct online research, two resources are particularly useful. PubMed (http://www.ncbi.nlm.nih.gov/sites/myncbi) is a major online database of scientific research, maintained by the National Library of Medicine (NLM) and the National Institutes of Health (NIH).
The PubMed search engine allows users to browse research that has been published on yoga and meditation across various at-risk populations. Registration is free and can be used to set up alerts based on keywords (e.g., yoga and cancer, yoga and children, effective behavioral health programs, etc.). By establishing alerts, PubMed will push relevant content to a user’s email account whenever new studies are published. Another source for exploring academic and scientific journals is Google Scholar (http://googlescholar.com). Search results from Google Scholar often link to full online articles that are available free of charge. Both PubMed and Google Scholar offer tools for refining search results; guided tutorials for using both sites are available on YouTube (http://youtube.com).

Sometimes knowing what research is currently happening is useful for DIY researchers. Online resources are also available to connect DIY researchers with studies in progress. For example, the Clinical Trials (http://clinicaltrials.gov) database is managed by the NIH and can be searched by keyword or research location. Contacting the primary investigators of projects of interest can be a useful strategy for shaping one’s own research approach. Scholars are often willing to share their research protocols and preliminary findings. ResearchRaven (http://researchraven.com) is a resource that compiles information about conferences that are relevant to trauma, social work, health, and therapy and rehabilitation for at-risk populations. For those who are interested in sharing their work at conferences, ResearchRaven also lists calls for papers and presentations.

Browsing existing research will familiarize you with the types of questions that investigators are exploring as well as the methods and measures they are using. This knowledge can be used to situate a program’s goals within the broader research landscape. It also allows DIY researchers to draw upon established theory, procedures, and analytic techniques. In addition, when research initiatives align with the interests of other relevant stakeholders, this facilitates opportunities for partnerships, collaboration, and potential funding.

**Set Achievable Goals**

Essential elements of setting goals include determining the type of data needed, how to gather it, and what to do with it once you have it. Practicality is imperative when selecting what can be answered with a reasonable amount of time and effort. However, placing broad objectives into a feasible research agenda can be challenging. The basic questions below can assist with setting research goals.

**Question 1 – What do I want to claim about my program?**

This single question can clarify research goals. In order to answer it, DIY researchers must understand their program’s structure, population served, and desired outcomes. For example, an initial claim might be that children who participate in yoga are calmer. This question could be refined further for research purposes: Does the program work with children with attention problems? With middle schoolers? With girls, boys, or both?

Next, how is calmer behavior defined? *Are the children who do yoga calmer than children who do not do yoga?* Do teachers notice that children who do yoga are quieter in class on the days they do yoga? *Do children feel less stressed after doing yoga?* It is important to narrowly define a population and refine the elements of claimed outcomes. This allows DIY researchers to conduct focused research and identify the data needed to produce convincing evidence.

For example, if a program teaches yoga to children diagnosed with attention-deficit hyperactivity disorder (ADHD) one morning per week, with the belief that its effects are most pronounced among aggressive boys, then a refined claim could be: *Elementary school boys with attention disorders who receive morning yoga lessons are less disruptive on yoga days compared to non-yoga days.* With this claim in mind, the DIY researcher would track the behavior of boys who do yoga, counting the number of disturbances they cause on yoga days compared to non-yoga days. This could be done through direct observations in school or by tallying the number of times classroom teachers refer them to the principal’s office throughout a semester. If there are consistently fewer disruptions or referrals on yoga days, this is an interesting claim backed by preliminary evidence.

**Question 2 – What should I measure?**

DIY research most commonly centers on assessing...
ing the core program issues of feasibility, process, and outcomes. Research on feasibility might examine recruitment levels, program costs, stakeholder evaluation, or attendance and dropout rates. Process research might include the analysis of workflow, lesson implementation, or documentation. Outcome research can include effects on individuals (e.g., health measures, satisfaction with program, changes in behavior) or program-level effects (e.g., resource savings, community involvement). Key outcomes should always be selected for their high impact and face validity, measuring the most noticeable and the most expected results.

Question 3 – What can I measure?
More often than not, DIY research is limited by the access to data of interest. The clients of yoga service providers are often considered to be vulnerable or at-risk groups, which means they may have restrictions on their participation in research. Some groups may be protected and require extensive human subjects protections (e.g., children, prisoners, people experiencing mental illness); others may be incapable of providing reliable data (e.g., inconsistent or rotating participants). In many cases, the type of desired data may be too costly or complex to be obtained in a DIY process (e.g., physiological measurements, effects over long periods of time).

In light of potential restrictions, DIY researchers may need to adjust their expectations. For example, researchers should choose to measure what is easiest to gather. Or, they may select data points that can be obtained from 100% of participants. Using 100% participation as a measurement selection criterion will make final data more comprehensive, valuable, and credible. It will also help determine what types of information may be too difficult to collect. Researchers may also use surveys or instruments that others have tested and validated on relevant populations. Or, a researcher may conduct a secondary data analysis using data sets collected by other investigators (e.g., participant demographics, school records, absences due to illness or fatigue).

Strategies for Program Evaluation
Many diverse and reliable techniques for program evaluation are available online. Using program evaluation as a keyword search term results in a range of applied research reports. DIY researchers should remember that using protocols, analyses, and findings from other studies is a useful strategy. When DIY researchers are able to replicate evaluation procedures, the validity of findings is strengthened by the fact that others have independently tested these methods. Below are a few basic evaluation strategies recommended for the DIY researcher.

Strategy 1 – Asking Questions
The least complicated strategy for evaluation is asking participants to answer face-valid and open-ended questions in an interview format or by filling in questionnaires. Face validity means that the questions asked are clearly and obviously connected to research objectives. Questions should focus on the experience with the program or the direct results of participation. Open-ended questions are a valuable qualitative research tool, allowing interviewees to answer in their own words. Open-ended questions are not ratings scales; they do not restrict answers with pre-selected responses. By using face-valid and open-ended questions, the information collected is elicited without interference or filtering from the interviewer’s point of view.

Examples of face-valid, open-ended questions include: What are the biggest benefits of participating in this program? What would improve your experience in the program? How did your participation in this program differ from your expectations? Questions like these can be asked of anyone who interacts with the program. Participants, volunteers, instructors, parents, and administrators can all be asked the same questions, delivering a comprehensive perspective on the program. Once all the interviews are complete, the researcher can create categories of the most common responses and tally the number of individuals who identify a certain experience, quality, or flaw. Sample findings from this type of research could conclude that: Fifteen out of 20 cancer patients stated that they enjoyed participating in the yoga program more than they expected to; or more than 80% of parents indicated that their children slept better after participating in the yoga program. Findings like this may be interpreted as quantifiable evidence of program effectiveness.

Strategy 2 – Focus Groups
Focus groups are another valid method of inquiry that can be used to gather qualitative information. A focus group brings program participants together and facilitates a conversation about their experiences. Focus groups can include program participants, volunteers, organizational staff, parents, and students. Groups may include only one type of stakeholder or a mix. The researcher may facilitate the conversation, observe it, or do both.

Focus groups are usually semi-structured. The researcher prepares a set of questions to explore the participants’ experiences in the program. It is helpful to have additional prompts for each conversation topic in case the original question does not provoke enough discussion. Responses to the topics should be freeform and participant-directed. Giving the group freedom to interpret the questions, share their perspectives, and evolve the conversation protects the data collected from facilitator bias.

With permission, focus groups may be recorded or transcribed for later coding and analysis. As with questionnaires, once the focus group is finished, the researcher can comb through the recordings and categorize the major themes that arose. When writing focus group summaries, verbatim quotes help to illustrate themes. In order to capture verbatim and highlight key points, facilitators may use a white board to jot down significant quotes as they come up. This also helps to share emerging research themes with participants, which may foster emotional investment and a sense of group ownership in the program.

**Strategy 3 – Process Mapping**

Process mapping is a logical, practical, step-by-step method for conducting program evaluation. It is an empathic means of analyzing and interpreting the quality of a program participant’s experience. Listing, observing, and describing every touch point that individuals encounter as they flow through a program will reveal important insights. This information will help shape a researcher’s assessment.

Researchers start by creating a visual or verbal timeline of the program experience from beginning to end. For example, if the study is concerned with a senior center’s experience of working with a yoga program, the timeline might include the following touch points: *initial contact with yoga program, budget discussions, introduction of yoga instructor, making the schedule, class implementation, feedback from center staff, on-going responsiveness.* An equivalent timeline could be made for the experience of the seniors themselves. A process map at the participant level would include more questions about the yoga instruction and its perceived effects.

Once the timeline is developed, participants are gathered and asked to list every positive and negative aspect of their experience at each key time point. Participants are also encouraged to provide recommendations for enhancing or correcting any of these encounters. This results in a matrix of positive and negative experiences of the program, alongside recommendations for improvement. Similar to focus groups, process mapping facilitates input from a wide range of participants. The linear structure reveals how separate experiences are interconnected. Process mapping is a user-friendly tool for DIY researchers and a great way to build your confidence in and capacity for program evaluation.

**Ethics and Informed Consent**

Protection of human subjects is of primary concern in any research effort. Once a DIY researcher has decided what to study, who will be observed, and how to measure items of interest, the challenge of obtaining permission to conduct the study remains. By and large, such ethical permission is referred to as informed consent. Informed consent may be granted in writing or verbally and will involve custodial permission in addition to participant assent when children and other protected populations are involved. Identifying the purpose of the research, potential risks and benefits to the participants, planned use of the data, participant confidentiality, researcher contact information, and permission to withdraw from the study are all elements of informed consent. When research is funded by government agencies or other institutions, a formal review of human subjects protections may need to be carried out by an Institutional Review Board (IRB) or similar oversight body.

Sample consent forms can be found on Dr. McGonigal’s website, along with an organized library of resources to make DIY research more efficient and less
mysterious (http://kellymcgonigal.com/2011/05/07/resources-for-diy-research). Dr. McGonigal’s resource page compiles links to resources that yoga service providers will find useful, including the most commonly used validated measurements, ideas for program evaluation, tools for design and analysis, tips for locating current research, and places to publish or present findings.

**Conclusion**

Yoga service is on the leading edge of bringing health and well-being to at-risk populations. In an evidence-based world, research is the most powerful tool to explain the experience of yoga practitioners and to support the beliefs of those who use it to serve. The evidence we define and produce through DIY endeavors can be the key to expanding yoga resources for underserved communities. Research is needed to elevate public awareness of how yoga is responding to diverse needs and measuring success with scientific rigor. The mission for the 2013 Yoga Service Conference was “moving from inspired to effective.” Indeed, the yoga service community is poised to expand its reach and improve program effectiveness. The role of DIY researchers will be critical to this important effort.
PARTNER Offers Yoga Service Providers a Tool for Evaluating Partnerships: Using Social Network Analysis to Assess Collaborative Partnerships in the Yoga Service Community

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From vision to action, yoga service partnerships involve complex relationships between yoga providers and community organizations serving vulnerable populations. Increasingly, these partnerships and networks integrate with public health, education, and other systems. To encourage the healthy growth of these partnerships, yoga leaders can use PARTNER (Program to Analyze, Record, and Track Networks to Enhance Relationships) to measure and evaluate key network characteristics. In 2012, Yoga Service Council member organizations and independent yoga service providers in southeastern North Carolina agreed to participate in a demonstrative research project utilizing PARTNER. A wide variety of yogaservice community members, including Yoga Service Council membership organizations and individual yoga service providers, were invited to participate. The structural map and network scores generated provide quantified measures of the structural characteristics of inter-organization yoga service networks. Survey results suggested that the Yoga Service Council could further strengthen regional yoga service networks by cultivating and nurturing specific partnerships, according to the needs of the local community.

Keywords: Network analysis, collaboration, partnerships, community, service delivery, organizational development

“Communication leads to community, that is, to understanding, intimacy and mutual valuing.”
– Rollo May

As yoga service programs are integrating with public agencies and private organizations to bolster and invigorate the health and wellness of individuals, families, and communities, unique and sometimes groundbreaking partnerships are bringing yoga to vulnerable communities outside of yoga studios. Yoga teachers and therapists are developing relationships with schools, prisons, hospitals, veterans’ health facilities, domestic violence shelters, and many other organizations (Schware, 2012). These network relationships depend on the support of public opinion, public funders, private and foundation resources, and highly skilled yoga service providers. Each community that invests in yoga service presents different expectations and long-term intentions. Yoga service partnerships depend on stable funding and access to community resources, such
as facility space, in order to ensure sustainable yoga offerings. These resources flow in healthy, strategic relationships.

To determine the strength of these relationships, yoga service organization leaders can use PARTNER (Program to Analyze, Record, and Track Networks to Enhance Relationships). Unique in the fields of organizational research and social network analysis, this set of tools allows for surveying collaborative partners and analyzing survey results using social network analysis in order to measure and monitor collaboration among people and organizations (PARTNER, 2013, p. 3). On this one website, yoga service leaders can build and administer a survey and then use specialized Excel-based analytical tools to map and measure a wide variety of characteristics of partnerships. In community partnerships, yoga service providers serve both individual clients and the organizations that provide access and space for the yoga to occur. Strong community partnerships can result in consistent and stable services to the public. Weak community partnerships can lead to interrupted services, thus compromising the long-term viability of effective yoga services and undermining the efforts of yoga providers and community liaisons to develop and establish yoga programs within public and private organizations.

The purpose of this article is to introduce the yoga service community to PARTNER and to offer guidance on how to effectively use this assessment tool. By assessing their existing networks using PARTNER, organizations in yoga service partnerships can quantify how well the mission of the partnership is being met according to a variety of stakeholders in the network. Results can also inform strategic planning to allow community partnerships to reap the benefits of collaboration and, most importantly, to effectively serve vulnerable special populations.

How Social Network Analysis Can Inform Community Collaboration for Yoga Service

Partnerships between government, private, and nonprofit organizations are critical in effectively serving public health needs. Increasingly, these public health networks offer yoga to supplement, complement, and improve traditional health services. Academic research regarding the operations of effective public health networks offers important insight as yoga providers become part of these community health partnerships. Although some academics emphasize the importance of specific network structures, others argue that awareness of the network structure should inform decision-making (Burt, 2004; Goldsmith & Eggers, 2004; Granovetter, 1973). However, trust is the one characteristic of successful networks echoed by multiple researchers, emphasizing the importance of inter- and intra-organizational structures that encourage trust-building and the significance of individuals capable of cultivating trust. In short, trust is the glue of networks, regardless of other characteristics (Huxham, 1993; Huxham & Vangen, 2005; Krebs & Holley, 2002; Ostrom, 2000).

Mapping Networks and Measuring Trust

Networks that serve communities by integrating yoga with existing service-delivery models reflect decades of evolution in the development of community public health networks. The complex webs of organizations serving the public receive both public and private funding, offer both public and private services, and cover large geographic areas in order to serve diverse demographics. Measuring success and effectiveness requires assessment of health factors of the populations being served as well as community factors. Studying these networks effectively requires a structural approach. Structural analysis of networks emerged from sociological research of individuals, especially in the context of disease transmission and intra-organizational networks in supply chains and corporate settings (Burt, 2004; Granovetter, 1973). By studying vast networks that have clear purposes, academics could pinpoint characteristics that brought about network success. PARTNER draws upon findings in organizational research, operationalizing network structure as the time and resources shared by partner organizations. Structural maps can be developed that show the intensity of relationships in a network, with stronger, thicker bonds between partners who engage in deeper commitments. Ultimately, academic and organizational wisdom indicates that a network’s purpose—such as spreading information, like the Yoga Service Council, or improving children’s health and learning, like so many school yoga programs—should...
influence the structure of the network (Buskens & Yamaguchi, 1999; Goldsmith & Eggers, 2004; Huxham & Vangen, 2005; Milward & Provan, 2003; Provan & Milward, 2006).

Trust and the importance of structures and processes that promote trust to achieve network success unite the recommendations of researchers, regardless of their findings addressing structure. An emphasis on trust, defined throughout organizational literature as willingness to engage in risk-taking with another organization or individual, appears in literature from multiple disciplines (Huxham & Vangen, 2005). Beyond the design phase of collaboration, the literature includes ample attention paid to the issue of trust building, commitment, and network performance. Elinor Ostrom (2000) explored collective action problems, stating that “it is useful to remember that most contractual relationships—whether for private or public good—have at least an element of this basic structure of trying to assure mutual trust” (Ostrom, 2000, p. 14). Drawing from informal and formal community networks, Ostrom showed that even wicked problems—those with no simple answer and requiring buy-in from diverse community members—can be effectively mitigated and even solved by trust-based partnerships.

Yoga service providers and community leaders who wish to bolster yoga service connections can capitalize on this wisdom from grassroots environmentalism. The key features are that partners must trust one another and that trust can grow over time as risk-taking leads to deeper commitment. Trust develops through an incremental process of mutual positive experiences with “advantage gained via successful implementation of low-risk initiatives” (Huxham & Vangen, 2005). For example, right now in the Wilmington, NC, yoga service community, the first paid yoga instructor in the public school system is completing the human resources intake process, getting hired to teach yoga to every child in a Title 1 school. The school’s counselor found funding and navigated the school system’s bureaucratic requirements with a small local nonprofit organization called Yoga Village. This fledgling relationship between the school system and Yoga Village involves a small risk—a single school and a grant-funded program. However, the funder, Pharmaceutical Product Development—a corporate community-outreach department—expressed that a successful implementation of a school-wide yoga program with this initial funding could result in additional funding at additional schools. Other administrators and school counselors expressed similar potential. Already, these partners are demonstrating the cyclical nature of risk-taking and trust-building, as identified in scholarly research. Each shared experience leads to more willingness to accept risk and greater potential for solidifying trust. Building trust cannot be accomplished through adoption of a particular network structure alone, but rather from an appropriate structure implemented by committed and skilled leaders and partners. Drawing on concepts and principles of social network analysis, the Appalachian Center for Economic Networks (Krebs & Holley, 2002) identified strategies for crafting a network. Using network maps to illustrate holes and gaps in network structures, the authors identified four stages of network development—Fragments (Small World Networks), Single Hub, Multi-Hub, and Core/Periphery Networks—suggesting that effective network weaving occurs through relationship building across traditional divides, facilitating collaborations for mutual benefit (Krebs & Holley, 2002). Early in network development, like-minded organizations and individuals cross paths, communicate, and, infrequently, coordinate activities (Figure 1). Later, single- and multi-hub networks form as deliberate efforts to share resources, coordinate activities, and engage in collective planning crystalize and strengthen ties. More mature networks boast more than one hub, reducing the risk of one central leader in a network controlling the flow of information and resources (Figure 2). The most fully developed and effective networks have a structure that distributes power among multiple, interconnected leaders and organizations, with a broad but engaged periphery (Figure 3). “Without active leaders who take responsibility for building a network, spontaneous connections between groups emerge very slowly, or not at all. We call this active leader a network weaver” (Krebs & Holley, 2002, p. 6).

**What PARTNER Offers Yoga Service Network Leaders**

Providing therapeutic yoga services presents an
opportunity to expand the scope of the typical yoga community to include leaders of public and private service organizations, eliminating the gaps in our social fabric through which our most vulnerable neighbors may fall. Yoga service providers and leaders in the broader community must take the time to “knit the fabric” of community by nurturing the network of organizations that can bring yoga to the public (Krebs & Holley, 2002). By taking the time to formally invite feedback from partners, yoga service providers can cultivate a healthy and vibrant service network. Partnership requires a delicate balance of shared goals, cooperation, and sometimes compromise.

PARTNER, the only tool of its kind, offers a suite of resources for members of a network to develop a survey that assesses the contribution of every partner in the network. Developed by Dr. Danielle Varda of the University of Colorado-Denver in 2009 and funded by the Robert Wood Johnson Foundation, PARTNER maps the structure of networks and evaluates their internal strength and health using measures of trust and perceived value (Potent Partnerships, 2013). Originally offered for free in its pilot phase, PARTNER now offers sliding-scale pricing, depending on the purposes of evaluation and the organizations using the tools. Using PARTNER, organizations can determine if their partnership accomplishes the shared mission and makes the best use of available resources, according to all stakeholders in the partnership. The significance and value of this tool for multi-sector partnerships is resounding when considered in the context of grant- and publicly-funded initiatives. Foundations and public-funding sources often require partnerships and demand systematic approaches for maintaining and improving service networks. In addition to clinical data confirming the effectiveness of yoga as a component of therapy, partnership evaluation must accompany program evaluation and planning to ensure sustainable, high-quality service. External observers and internal self-evaluations of various multi-sector networks across the nation have utilized the PARTNER Tool. The metrics calculated with the PARTNER Tool—trust, density, and degree centralization—provide data for systematic analysis designed to inform strategic planning (Varda, PARTNER, 2009). Stakeholder organizations have needs that are different from individual clients, encouraging multi-dimensional evaluation of macro-level conditions and outcomes. By taking the initiative to measure network health and map service-provision networks, yoga providers and public leaders can potentially improve efficiency and effectiveness while cultivating sustainable yoga service programs.

According to the PARTNER website (PARTNER, 2013), the tool can also be used to answer the following questions:

- “What are the quantity and quality of relationships in community collaboratives?”
- “Do gaps, vulnerabilities, and inefficiencies exist among partnerships?”
- “How well do people leverage scarce public dollars by collaborating?”
- “How can members of a collaborative remain accountable to their funders and stakeholders?”
- “What models/frameworks for collaboration work best?”

**Applying the PARTNER Tool**

After learning of the PARTNER Tool in a graduate program for nonprofit management, I facilitated a preliminary study of the Yoga Service Council’s network of yoga service professionals, organizations, and other partners, focusing on the southeastern North Carolina region and its relationship to the larger national network. Aware of the Yoga Service Council’s (YSC) emergence in New York, California, and other large markets, I was interested in determining how strong of a presence the YSC had in my local region. I wanted to answer the question of whether the YSC met its mission to improve capacity in a primarily rural region with a high concentration of need, especially among military veterans and their families. Although the information-diffusion and capacity-building forms of networks identified by Provan and colleagues have previously only been explored in the context of governmental agencies and departments, in the present context they served as fitting proxies for a baseline assessment of the YSC’s self-administered network in light of the its mission to share information among members in order to bolster yoga and mindfulness offerings (Provan & Kenis, 2007; Provan & Milward, 2007).
2006). Extending from the core network, many smaller service provision networks are reaching target populations through public-private partnerships forged by members of the YSC and other yoga providers. With this basic structural description in mind, an appropriate research question emerged: Does the core structure of the Yoga Service Council result in an effective information-diffusion network to “build a professional community for members and organizations bringing yoga to underserved and vulnerable populations and to provide a forum for discussion?” (Yoga Service Council, 2013).

After more than 50 individual contacts via email and telephone, 14 member organizations and 18 independent yoga providers agreed to participate in a survey created from a bank of questions in the PARTNER Tool. Organizations were selected based on their recognition on the YSC website as founding members. Individual providers were selected because they were presenters at the YSC conference in May of 2012 or they practice or study yoga with or represent member organizations. Additionally, semi-structured interviews were conducted with all respondents (n=17) who contacted the facilitator after the launch of the formal survey. Respondents began by identifying themselves and the network partners with whom they communicate, coordinate, and collaborate. The survey asked respondents to record the frequency of interactions with other groups; to identify elements of strength and quality of interactions; and to measure trust, value, and outcomes resulting from the collaboration. (For more detail on survey questions and other PARTNER resources, visit http://www.partntertool.net/wp-content/uploads/2011/05/PARTNER-Template_Appendices.pdf.)

Results of the PARTNER survey quantify key network measures, both structural and qualitative: density, degree centralization, and trust. Density is measured as a percentage of ties present in the network in relation to the total number possible ties (Varda, PARTNER, 2009). That is, low density suggests structural holes or potential ties that could be built to improve the flow of information and resources. However, high density may suggest inefficiencies, such as overlapping ties where information flows redundantly. Degree centralization compares network members in terms of their number of connections to others (Varda, PARTNER, 2009). Lower centralization scores indicate similar numbers of ties for each member organization. A high centralization score indicates that one organization may serve as a hub, connecting to more organizations than any other. Network hubs control the flow of information and resources, sometimes maintaining—or in the best cases, facilitating and enhancing—connections between other network members. Finally, trust is measured for the entire network as a percentage score based on members’ perceptions of one another on a scale of 1 to 4, from least to most trustworthy. To achieve a trust score of 100%, every member of a collaborative would rank every other member with a trust score of 4 (Varda, PARTNER, 2009).

My simplified application of this sophisticated tool revealed two key characteristics of the YSC: high level of internal trust with limited density in the universe measured in this study. With regard to information diffusion, the YSC and its southeastern North Carolina network formed a low-density network (7%), transitioning from a “small world” network to a “hub-and-spoke” network (See Figure 4; Krebs & Holley, 2002). This means that currently, not all nodes connect to each other, suggesting opportunities for strategic connections where new information could flow. With a degree centralization score of 32%, the network showed evidence that some organizations have established ties to multiple organizations, but no single dominant hub controls the flow of all resources and information. While not diagnostic, these measures offer insight into the habits of a broad range of organizations and individuals and are valuable for strategic planning for future collaboration and information diffusion.

With regard to trust, results were consistent with many examples of public health collaboratives. Similar partners in the yoga service collaborative network expressed the highest levels of trust, while trust plummeted for cross-sector partners. For example, while yoga teachers and yoga organizations gave each other consistently high scores for trust, yoga organizations expressed their lowest trust scores for the public sector. Inclusion of public partners would have provided more balanced results, but the results still provide clear insight into the sentiments of YSC member organizations, who expressed internal high-trust lev-
els ranging from 3 to 4. Trust measures between yoga organizations and correctional facilities, for example, were as low as 1.2, on average, when scored by yoga service providers. This discrepancy is consistent with other network studies, highlighting the difficulty of bridging the gap between sectors (Reich, 2000). One of the most significant lessons from this application of the PARTNER Tool involved the fragility of ties between the community of yoga service and the public agencies that provide access to the special populations who will benefit from long-term, high-quality yoga services—veterans, children and adults with special needs, the homeless, and countless others.

Furthermore, results from this study indicate the opportunity for the YSC to cultivate regionalized initiatives that differentiate the needs of communities for more targeted capacity-building efforts. Connections between Southeastern NC yoga leaders and the YSC were tenuous and underdeveloped, without any coordination. Southeastern North Carolina is home to the world’s largest army base and the second largest U.S. Marine Corps base, resulting in one of the highest concentrations of military families in the country. Yoga providers will need specific skills to effectively serve this population and specific skills to build capacity for negotiating programs with high-security military installations. Each region, with its unique characteristics, may need yoga providers and service networks with specific assets. The PARTNER assessment suggests that the YSC could meet its mission of “building capacity” by fostering specific connections, rather than a generalized approach for the entire nation.

How Yoga Providers Can Use the PARTNER Tool

After working in partnership at least two to three years, network leaders should consider evaluating network member satisfaction and structural characteristics. Both of these indicators deserve deliberate attention because they can inform network strategy and bolster the long-term viability of programs. PARTNER is most relevant for yoga service providers engaged in networks that include large public institutions, such as school systems, the Veterans Administration, and correctional facilities.

Below are a series of steps that detail the PARTNER Tool implementation process:

1. Find a suitable evaluator, perhaps a graduate or post-graduate student from a local university. Reach out to nearby universities with public administration or nonprofit administration programs to find a qualified evaluator.

2. Explore the PARTNER website and develop a timeline with the evaluator. The website has tremendous resources that support survey and analysis processes; technical support is available from the PARTNER team.

3. Develop the survey using standardized question stems from the PARTNER survey bank. The survey is a critical aspect of evaluation. Clarify your intentions for the evaluator/facilitator so that the survey questions elicit the feedback needed to effectively gauge the health of your yoga service network.

4. Craft an email to all appropriate leaders in partner agencies and organizations, asking for their participation in the survey. The goal is to elicit participation from every member of the yoga service network—providers, social service agencies, schools, mental health care providers, funders, and others. The greater the number of stakeholders that participate, the more valid the data collected. If major partners do not participate, gaps and inconsistencies could inhibit interpretation of the data. Although 100% participation is unlikely, key partners should be identified, and buy-in from network members will ensure greater validity.

5. Complete the survey, along with other participants. The facilitator can send reminder emails to stimulate maximum participation. After sufficient time has passed (allow respondents at least a couple of weeks), work together with the facilitator to analyze and interpret the data. Multiple views of the data are available and measures can be clearly interpreted using the PARTNER online materials.

6. Reflect on the results. How do network partners feel about the services provided, the value yoga services bring to the mutual client, and the resources each organization brings to the partnership to serve the public and private needs within the community? Does the partnership result in the expected outcomes? If not, what changes should be considered to
move towards more effective network systems?

**Conclusion**

PARTNER offers stakeholders of public-private partnership networks the opportunity to take a systematic look at their working relationships in order to ensure achievement of the greatest outcomes for the vulnerable populations they serve. By mindfully and deliberately evaluating partnerships, bonds can be strengthened or adjusted as necessary to encourage the greatest collective advantage.

**References**


Bringing Yoga to the Veterans Administration Health Care System: Wisdom From the Journey

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This article describes the author’s experience of developing a yoga program in a Veterans Administration (VA) health care system and of the needs and benefits of providing yoga to veterans. It also discusses the growing openness to complementary and integrative medicine in the VA system and how yoga fits within it. The unique aspects of teaching yoga and delivering yoga therapy to this population are explored, as are the training methods that the author has found useful. Since there is more trauma in this population than in the general public, the author gives sources for training and literature to build knowledge about working with trauma and the military. Also noted are the challenges of and opportunities for working in the VA system. The author explains the process of gaining access to the system and on promulgating yoga services within the system.

Keywords: yoga, meditation, veterans, iRest, Phoenix Rising Yoga Therapy, complimentary and alternative therapy, integrative medicine

Veterans (nonactive military personnel) are one of the country’s most underserved populations with regard to mental health services (Clay, 2010). In 2011, there were 21.5 million veterans in the United States (U.S. Dept. of Commerce, 2012). Homeless veterans, approximately 62,000, account for about 13% of the homeless adults in the United States (U.S. Dept. of Housing and Urban Development, 2012) and another 1.4 million veterans are considered at risk for homelessness (National Coalition for Homeless Veterans, 2013). Seventeen percent of Marines and soldiers returning from Iraq have post-traumatic stress disorder (PTSD; Hoge et al., 2004). Patients with PTSD have a higher prevalence of chronic pain, substance abuse, and general medical issues (Morasco et al., 2013). Homecoming veterans who have served in Iraq and Afghanistan are only part of the cause of the growing pressure on the VA to care for veterans. Other factors adding to the growing need for care are aging Vietnam veterans with chronic health conditions, rising unemployment rates for veterans, and expanding benefits and outreach.
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YOGA SERVICE IN ACTION

programs on behalf of the VA to encourage veterans to utilize their benefits and seek care (Dao, 2009).

These men and women put the quality of their lives in jeopardy for our country. They deserve to receive the best health care: that which moves them from simply dealing with and trying to ward off disease to living well with whatever issues they have. Yoga contributes to the best health care by helping veterans practice self-care and integrate the mind, body, and spirit, allowing healing of the whole person. Yoga has been shown to treat a constellation of symptoms at the same time, for example, chronic pain, PTSD, depression, anxiety, stress (Libby, Reddy, Pilver, & Desai, 2012; Smith, Hancock, Blake-Mortimer, & Eckert, 2007; Tekur, Singphow, Nagendra, & Raghuram, 2008). Because it is practiced in a group setting, many underserved veterans can be reached at once. Yoga is something veterans can continue to do inexpensively and simply on their own.

Veterans Health Administration

The Veterans Health Administration (VHA) serves 8.8 million veterans each year through more than 1,700 sites. Its medical centers, clinics, and veteran centers compose the largest health care system in America (U.S. Dept. of Veterans Affairs, 2013). While providing care to veterans, the VHA also provides opportunities for 100,000 people a year to receive required practicum training (surgical students, dental assistants, psychology interns, etc.). It provides patients and facilities for cutting-edge research in a wide spectrum of medicine (Joehl, 2013). For example, the 237-bed hospital in Long Beach, California where I serve has a significant outpatient program that provides mental health services, patient education, acupuncture, medical, dentistry, and a multitude of other services.

Author

My father was in the navy for 20 years, retiring as a senior chief petty officer. This gave me some experience with the stress carried by veterans and their families. In late 2010, I was looking for a venue to practice yoga therapy. I wanted a place where there was great need and a situation I would feel good about serving. When a billboard with a service member in uniform saluting a flag brought me to tears, it also brought me to the realization of my calling. Since January of 2011, I have been volunteering as a yoga teacher/therapist at a VA health care system up to 20 hours a week, and have evolved into a paid professional. Over this three-year period I observed veterans’ continual search to find peace in their bodies, minds, and hearts. I have witnessed them enjoy less pain, benefit from the ability to breathe more easily and sleep more peacefully at night, and discover new ways to look at their challenges and life. They tell me routinely how beneficial yoga is to them:

“...lowered my back pain, my stress level, and are helping with my PTSD.”
“...helped me daily to improve those interrupted sleeping episodes.”
“...was able to do a full Ten-HUT! which I haven’t been able to do in years.”

Veterans write letters to the administration with similar feedback. When I started working at the VA, I was looking for a place to practice my profession. Now, I come to serve.

Integrative Medicine

Integrative medicine can be defined as an approach to the practice of medicine that makes use of the best available evidence, taking into account the whole person (body, mind, and spirit), as well as lifestyle factors. It emphasizes the therapeutic relationship and makes use of both conventional and complementary/alternative approaches (Kligler et al., 2004). Integrative therapies are most commonly utilized in the VA to help veterans manage stress, promote general wellness, and treat anxiety, PTSD, depression, back pain, headache, arthritis, fibromyalgia, and substance abuse (U.S. Dept. of Veterans Affairs, 2011a), as well as allergies, fatigue, and gastrointestinal problems (Baldwin, Long, Kroesen, Brooks, & Bell, 2002).

In 2011, about 9 out of 10 VA facilities directly provided complementary and alternative medicine (CAM) therapies or referred patients to outside licensed practitioners (U.S. Dept. of Veterans Affairs, 2011b). As Table 1 shows, out of the 10 CAM therapies reviewed, meditation was the most commonly provided or referred CAM therapy and hatha yoga was ninth. In
Table 1. Types of CAM Therapy in the VA System in 2011

<table>
<thead>
<tr>
<th>Type of Therapy</th>
<th>Number of VA Sites Providing Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meditation</td>
<td>101</td>
</tr>
<tr>
<td>Stress Management/Relaxation Therapy</td>
<td>93</td>
</tr>
<tr>
<td>Guided Imagery</td>
<td>82</td>
</tr>
<tr>
<td>Progressive Muscle Relaxation</td>
<td>75</td>
</tr>
<tr>
<td>Biofeedback</td>
<td>70</td>
</tr>
<tr>
<td>Animal-Assisted Therapy</td>
<td>62</td>
</tr>
<tr>
<td>Music Therapy</td>
<td>60</td>
</tr>
<tr>
<td>Acupuncture</td>
<td>58</td>
</tr>
<tr>
<td>Yoga</td>
<td>44</td>
</tr>
<tr>
<td>Hypnosis/Hypnotherapy</td>
<td>41</td>
</tr>
</tbody>
</table>

Another survey of 125 PTSD VA programs, 96% used some form of CAM modality. Mindfulness meditation was most prevalent with 77% of programs using it, yoga was sixth on the list with a 29% usage rate, and 26% of programs used meditation in general (Libby et al., 2012).

Clearly, there is interest in and use of CAM throughout the VA (U.S. Dept. of Veterans Affairs, Veterans Health Administration, 2009). A survey of veterans being treated for chronic pain and cancer found that if CAM were offered in the VA, three-fourths of the veterans would use it (McEachrane-Gross, Liebschutz, & Berlowitz, 2006). A study of 401 veterans suggested that CAM modalities may have broad appeal among veterans living with chronic pain. In this study, 99% of the participants were willing to try CAM (Denneson, Corson, & Dobscha, 2011).

One of the 2013–2018 VHA strategic goals is to train 1,100 clinicians by the end of 2014 in a new core course called “Whole Health: Change the Conversation—Advancing Skills in the Delivery of Personalized, Proactive, and Patient-Driven Care.” One of the purposes is to bring integrative medicine to the VA by educating current staff about how to integrate CAM into their practices to address the needs of the whole person (Gaudet, 2013). The environment is changing in a manner that provides more opportunities to bring yoga to veterans.

Considering Working in the Military

Following are some questions to ponder if you are considering working in a military setting.

Which Population do You Want to Serve?

There are three primary populations of military personnel and each has different needs and challenges: (a) active military who are still working in the military and who may return to combat; (b) veterans who are actively working in the community; and (c) veterans who are mostly supported by disability payments or are retired. There are opportunities to provide yoga to all three populations. This article describes serving veterans at VA facilities in an outpatient capacity.

Do You Enjoy Being a Pioneer?

You will likely be a pioneer working with medical professionals within the system. The traditionally trained physician may be skeptical of CAM and integrative medicine (Hsiao et al., 2006), although there appears to be increasing openness within the medical community. In many cases you will need to develop your own program, get it off the ground, and deliver it.

Do You Want to Serve Primarily Healthy People or Those With More Health Challenges?

I teach chair yoga and slow, repeated poses done with a lot of coaching about awareness. Serving working veterans in a medical center is somewhat akin to working with middle-aged Americans who are juggling work and home and dealing with life’s stresses, except that they are more likely to have PTSD, traumatic brain injury (TBI), military sexual trauma (MST), or severe injuries related to accidents or combat. Your skills as a teacher are likely to be challenged because your students may have walkers or be in wheelchairs, have difficulty following your basic instructions due to TBI or hearing losses, or be relatively healthy, and they may all attend the same class.

Would You Like to Increase Your Medical Knowledge?

In a hospital setting it is important to invest time learning about the particular medical challenges with which your students are diagnosed. The medical professionals want to know they can trust you with their patients and their issues. Having a fair amount of medical knowledge will allow you to better connect with the professionals and be more effective with the veterans. There is a wide variety of medical subpopulations
that you can learn about and serve (e.g., spinal cord injury patients, people with a variety of mental/emotional challenges, cancer patients and survivors). It is helpful to have basic knowledge about the subpopulations’ challenges and how you will work with them before you approach the VA, and then to show eagerness to learn more through on-the-job experience.

**Do you Want to Work With Men or Women?**

Only 10% of veterans are women (U.S. Dept. of Veterans Affairs, Women Veterans Health Care, 2013). This number is projected to be 14% by 2027 (U.S. Dept. of Veterans Affairs, Office of the Actuary, 2011). I have found it difficult to sustain women’s classes, even with a women’s clinic from which to draw participants. I believe this is due to a number of reasons: (a) there are fewer women veterans; (b) up to 33% of women veterans live with MST, and some women are uncomfortable in a male-dominated environment, fearful they might see their perpetrator (Blumenthal, 2008); and (c) women tend to have roles as primary caregivers to both younger and older generations and find it hard to prioritize care for themselves.

Although I have taught yoga classes primarily to male veterans, I have not had any problems. My conduct is professional and I have found that they respect that.

**Are you Sufficiently Motivated to Work Within a Bureaucracy That May be Slow to Change?**

Being understanding, patient, and respectful is important, as is being tenacious and having a good follow-up system.

**Would you Enjoy Working in a Highly Patriotic Environment?**

In my experience, most veterans are patriotic and would choose again to serve their country in much the same way as before. It is prudent to consider your responses to war and patriotism at the outset and to habituate yourself to the realities of war as best you can. Watching movies and reading books can help, as can talking to veterans about their lives and service. Try to imagine marching a mile or two in their shoes. If this is challenging for you, it will afford you a great opportunity to practice acceptance and to focus on our common humanity rather than to impose your own views.

**How Important is Ambience in Yoga Settings to You?**

You will probably be teaching in conference rooms, mental health group rooms, or therapy offices. Most likely you’ll need to move chairs and tables to make space; it often takes me almost as long to prepare the room and put it back together as it does to teach the class. However, veterans are often very pleased to help with this task. You might be interrupted frequently by people passing through the yoga space or coming into the room to ask questions. There may be a lot of surrounding noise. At least initially, you will probably need to supply your own props. There might be somewhere for you to store them, or you might need to bring them with you each time. In other words, teaching yoga at a VA is usually very little like teaching yoga in a well-equipped, designated space such as a yoga studio, and you will need to be prepared, creative, and flexible in your approach.

**Preparing to Work in the VA**

In my view, the single most important preparation for teaching veterans is learning how to serve people living with the effects of trauma. This influences all parts of the teaching experience, including how you prepare the room, how you approach the participants, which activities you select, and how you phrase your words and teach. It is beyond the scope of this article to provide comprehensive advice on teaching appropriately for this population. I highly recommend taking one of the available trainings on this topic. Free training regarding PTSD is available online through the VA (U.S. Dept. of Veterans Affairs, National Center for PTSD, 2013), and the Warriors at Ease program offers online training for teaching yoga in military settings (Warriors at Ease, 2013). I highly recommend the book *Overcoming Trauma through Yoga: Reclaiming Your Body* (Emerson & Hopper, 2011), which I have read many times.

It is helpful to have both asana-based yoga training that has a strong emphasis on safe alignment and training that includes management of mental and emotional states. I have a significant amount of training as a yoga teacher and as a student with Iyengar yoga teachers. When working with physical issues, I constantly refer to the alignment details and the teaching approach I learned with them. In addition, I completed yoga therapy and yoga teacher training with Phoenix Rising Yoga Therapy (PRYT), which em-
phasizes the emotion/mind koshas (the five energetic layers, or sheaths, of the body). I draw from PRYT to encourage the students' self-inquiry, and my training in PRYT provides me with the ability to hold a safe and nurturing space for the students to delve into potentially raw, scary places. It is imperative that you have appropriate training for such situations and that you have a trained mental health professional (MHP) available in case a veteran has a strong upsetting response. Teachers should always know what number to call if any threatening or unmanageable situation arises.

In addition, my training in iRest, a method of yoga nidra (Miller, 2005), has deepened my understanding and practice of nondual awareness. This training supports my ability to see individuals as essentially whole, reminding me not to focus solely on what is damaged. Richard Miller, PhD, has adapted yoga nidra into a reproducible 10-step protocol that has been used in practice and research with military populations (Integrative Restoration Institute, 2013).

Regardless of what level of training you possess, be aware that a large part of your job is to provide a safe container for your students to practice their own yoga. When teaching, I move my insecurities out of the way and focus on providing what, to the best of my ability, will be beneficial to the veterans.

My Journey in the VA

In the fall of 2010, I took the Warriors at Ease training. I became excited about the prospect of serving veterans and I had greater confidence in approaching the VA.

In January 2011, wearing business attire and with professional-looking folders in hand, I made cold calls to the departments of interest at the VA. I left brochures, and I picked up business cards. I wrote e-mails to each person and called them the next day, noting why I wanted to assist veterans with yoga and meditation.

I received a call back from the Women’s Mental Health Center (WMHC) within two days. It had an immediate need to replace a movement instructor. After an interview, the director invited me to volunteer for a 12-week period, and by February I was teaching yoga.

After that, my focus was all about providing yoga that the veterans and staff would appreciate. Today, I am an employee, a contractor, and a volunteer, all in different departments.

Getting in the Door

Preparation and presentation are key to getting your program started at the VA. Dress professionally; do not wear yoga clothes or casual attire such as jeans. Bring a well-written brochure and perhaps a published article on how others have taught in military settings. Be clear and articulate about how yoga might help the population you want to teach and what your yoga program entails. A select few research studies showing how yoga can benefit veterans can be helpful, although you should keep them brief. Be confident and humble. Be respectful of people’s time; the VA staff is busy. Be clear about your credentials and any experience you have working with your chosen population or a similar population. If you do not have specific experience, explain clearly what qualifies you to teach this group. Be especially prepared to discuss why working with veterans is important to you. Ask what you can do to assist with the process of getting the class started and be willing to do whatever is necessary, including follow-up communication with key personnel.

It can be very effective to provide demonstration classes to staff. This can help to remove some potential misconceptions about how you will present your yoga classes and will give staff a taste of some of yoga’s benefits. This can help provide the staff the confidence to refer their patients to your classes. You may want to offer to attend staff meetings or hold special lunch-hour programs to provide more opportunities to educate staff about your program. I had much success with this strategy; a substantial portion of students are referred to me by primary care doctors. Offer classes for the specialists whose patients you most want to serve (e.g., cardiologists, oncologists). In addition, you may want to offer to be a guest presenter at ongoing patient groups. This gives the staff a break and allows veterans to experience yoga.

Building Your Program

Once you are in the door, the next step is to provide your services in such a way that veterans enjoy your classes and keep coming back. Often, the most
Volunteering Versus Paid Work

The VA in which I work is looking to the currently employed MHPs to provide meditation, mantra repetition, and various forms of relaxation. This was also noted as a current trend in a recent survey of CAM in the VA (Libby et al., 2012). Using currently employed professionals provides the professionals with a break from individual sessions and potentially keeps costs down, because no further personnel payment is required. The VA is structured such that, for the most part, a person is required to have a license to work with patients. Since yoga professionals are certified but not licensed, there is a barrier. If you are a licensed independent professional (physical therapist, nursing assistant, counselor, social worker, etc.), it will open up many doors to paid positions in the VA that you and a mentor can creatively shape to fit what you want to accomplish. Becoming licensed in another complementary approach to health care is very beneficial. However, if you are not licensed in any such fields but you can show that you can function like a licensed professional, running movement and insight groups (not emotional and mental processing groups), then they can pay you to manage yoga and meditation groups. Staff may want time to get comfortable with you and how you are with the patients (probably by observing you for some time). VA staff members know what a nurse or social worker is trained in and have confidence in that. Without recognized licensing standards, it is hard for those hiring to know what extent of training and experience a yoga teacher has and what they are hiring yoga teachers to do.

Find a way to help staff at the VA to understand that well-trained yoga teachers provide much more than a stretch class. Yoga teachers can provide opportunities for veterans to learn to accept what is, including self-acceptance, and also to be open to making other choices; to learn a variety of breathing methods that may help with anxiety, pain, low energy, and so on; and to develop a broader perspective within which to understand their challenges. Without overstating the case, you can explain that yoga can help veterans to transform their lives, not just their medical problems. I believe, as well, that those hiring want to see these qualities in you, not just to hear about them. They want to be confident in you before they take a
risk and bring in an unlicensed professional.

With the current push in the VA to manage pain with fewer pharmaceuticals, there might be an urgency to get a program established, which may provide an opportunity for you. My initial compensation, as a contractor, was under an existing grant for holistic therapy that was changed to accommodate me. There was a need that I happened to be there to fill. After two years of volunteering, a psychologist hired me as an employee in the primary care department to teach pain management. It is key to remember that things happen in their own time and that you are not in charge of outcomes, only of performing your dharma (work). Since the primary care department where I work has had success with the yoga classes, it is bringing in tai chi and healing touch. CAM is unfolding, slowly, at its appropriate pace.

Teaching Yoga

In my experience, most veterans come to class because either (a) their doctor recommended it to them for stress reduction or for chronic pain or (b) they self-refer because they are at a point where they will try anything that might help them. Most come in skeptical about whether yoga can help them.

I teach several different kinds of classes, and in all of them, students are repeatedly encouraged to practice ahimsa (non-harming) toward themselves by not pushing past pain. Veterans have been trained, more so than the general public, to “suck it up” and approach life from a “no pain, no gain” perspective. It sometimes takes a lot of reminding and encouraging for veterans to stay on the safe side of a pain threshold. They learn to slowly approach the threshold of discomfort and pain and to observe it with curiosity, without crossing that threshold. I teach most classes in a PRYT-inspired way, meaning that they begin with a centering practice to create self-awareness, they are thematic, throughout class students are asked rhetorical questions to invite self-inquiry, and students are encouraged to explore how the postures affect them rather than trying to fit themselves into an “ideal” shape. In most classes there is a focus on calming the stress response (bringing veterans’ awareness to their present safety; slow, deep, focused breathing; and restorative poses) and on opening the heart (chest

opening poses, breathing through the heart, mantras, and remembering times of expansiveness).

All classes are trauma sensitive, meaning, broadly, that students are repeatedly reminded that they have choices and that they are in charge of what they do in the class. I rarely and only upon invitation give physical assists or touch the veterans. Poses are chosen partially based on how vulnerable the pose might feel (especially sexually) to the student. Students are given the opportunity to explore the room before class begins and are informed that the door is locked (if that is possible and appropriate) and that I am looking out for them. I make it easy for the veterans to know where I am in the room at all times, in an effort to create a safe place for them to practice letting down their guard and fully relaxing.

In the iRest classes, I review a component of the 10-step protocol and ask the participants what they are grappling with or enjoying that week (examples may include guilt, feeling undeserving, frustrated, grateful, or wanting to simply relax), and then I weave it into the practice. Sometimes I invite them to explore on their own what is coming up internally in the moment. Depending on who is in the class, I will be careful not to refer to material that might trigger sexual or war-scenario trauma.

In the primary care department, I teach a six-week class series on yoga for pain management based on Kelly McGonigal’s book *Yoga for Pain Relief* (2009). This class includes a centering practice to increase self-awareness. I teach a breath practice and ask the students to notice how they feel before and after the practice, then I lead them through slow, repetitive movements or ask them to hold postures with a curious eye. Lower back and abdominal strength and flexibility are often a focus. I offer insight practices to encourage students to inquire into their relationship with their body, into pain as a teacher or as a friend, what secondary gain they receive from their pain, how could they show their body more compassion, and so on. I ask students to repeat whatever has worked best for them and suggest restorative poses they can practice outside of class—for example, during a pain flair-up. My students have said that they most appreciate the breath work. Many patients take the six-week series multiple times and then move to the more ad-
vanced class. I also teach yoga as part of a 12-week holistic MST program for women. The yoga class themes align with the theme of the program for that week, and I emphasize skills that relate to the issues taught in the program (anger management, relationships, sleep hygiene, etc.).

Regarding the individual yoga therapy sessions, it is important that the staff members have personally experienced, either themselves or observed with a patient, what the sessions are like to remove the mystique and fear and to better understand how yoga services can help. The sessions might involve iRest, PRYT, traditional yoga postures, breath work, and/or guided imagery. Communicating frequently with the MHP between sessions helps ensure the best outcome for the individual.

Additional Suggestions
Take Care of Yourself

Working in a VA environment can be overwhelming when you are witness to the challenges faced by veterans in their daily lives. It is essential to maintain a steady personal yoga practice to avoid taking on the suffering of others and to allow you to serve sustainably. Keep in mind that you are not there to fix anyone; you are there to teach yoga. It is helpful to have support from your community, friends, family, or counselor so that you do not become isolated. In addition, maintain appropriate boundaries between you and your students. Avoid becoming involved in their private lives or giving advice. This is both an ethical imperative as well as a way to prevent burnout.

Alternative Venues to Serve Veterans

As of January 2014, under the Affordable Care Act, veterans will be able to opt out of the VA for their care and utilize commercial medical insurance programs (Kaiser, Blue Shield, etc.). I anticipate that there will be jobs in local medical centers to create veteran programs. Of course, veterans can be served in many other venues such as yoga centers and community classes. Many are served in city, county, and state programs, in shelters, and in prisons.

Give It a Try

There is a saying about VA healthcare systems: “If you know one VA, you know one VA.” Each VA is run independently, and what works at one may not be immediately acceptable at another. This country’s veterans showed courage during their service. I like to think that I am courageous and tenacious on their behalf.

I started out very scattered, wanting to help but not knowing how. I investigated a variety of options, frequently became discouraged, remembered my motivation, and tried again. My confidence as a person, a teacher, and a yogi has grown through the process. I find it extremely rewarding to serve the veterans, and I am honored that I am on their journey with them.

References


Appendix

Class Evaluation Questions

1. What did you like best about the class? Please give some examples about how it impacted your life.
2. Was the class worth the time and effort you put into it?
3. What do you think would be helpful to emphasize?
4. What do you think we should de-emphasize or remove?
5. What was the most frustrating part of the class?
6. What was the most difficult part of the class?
7. How are you more able to cope with stress and pain?
8. What are the three most important things you learned from the class?
9. How often do you practice between classes?
10. How do you use the handouts?
11. What would make the handouts more helpful?
12. Please rate (using the noted scale) how the following areas of your life were impacted by this treatment:

   Quality of sleep:  
   Quantity of sleep:  
   Pain level:  
   Pain frequency:  
   Reduction of tension:  
   Ease of breathing:  
   Sense of well-being:  
   Ability to relax:  
   Ability to feel a sense of joy:  
   Ability to manage the stresses of life:  
   Ability to be calmer while experiencing intrusive thoughts, emotions, memories:  
   Ability to live an intentional life:  
   Ability to recognize or reinforce your purpose in life and/or heartfelt desire:  
   Ability to make changes in your life based on your awareness: 

13. If you gained a lot out of this program, what is it about you or your circumstances that you believe helped you to benefit from this program?
14. If you didn’t gain much from the program, what do you think prevented you from receiving more value?
15. How do you plan to continue doing iRest or yoga after the class is over?
16. Do you have any other feedback?
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Contact Dan Libby, dan@veteransyogaproject.org, 203.936.9642
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