The Value of Transpersonal Research Methods for Studying Yoga and Mindfulness in Schools

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Abstract

Over the past decade, interest in yoga and mindfulness in schools has grown tremendously, with preliminary research suggesting that these interventions may have a variety of positive effects on youth. However, some quantitative studies of school-based yoga and mindfulness have reported null effects or even counterintuitive effects, such as increases in perceived stress, negative affect and psychological symptoms. In addition, some mixed-methods studies that combined quantitative and qualitative approaches have found inconsistent results, with the quantitative outcomes failing to show statistical significance, while students report benefits of yoga and mindfulness in qualitative interviews/focus groups. These inconsistent findings suggest that the field of school-based yoga and mindfulness may benefit from a consideration of alternative research methods to study the complex effects of these interventions. Given that yoga and mindfulness are inherently transpersonal and transformational practices, transpersonal research methods may be particularly well-suited to studying the effects of these interventions.

Transpersonal research methods were developed within the field of transpersonal psychology as an alternative approach to studying the nature of inner experiences, particularly transpersonal and spiritual experiences. The current paper re-envisioning a previously published study of a school-based yoga intervention through the lens of transpersonal research methods, with the intention of providing researchers with examples and inspiration to enrich their studies of school-based yoga and mindfulness. By combining transpersonal research methods with traditional quantitative and qualitative approaches, scientists have the potential to provide a more rich, complex, and realistic evaluation of the transformative impact of yoga and mindfulness in schools.

The Value of Transpersonal Research Methods for Studying Yoga and Mindfulness in Schools

Over the past decade, interest in yoga and mindfulness in schools has grown tremendously, with programs being implemented across the United States and around the world (Butzer, Ebert, Telles & Khalsa, 2015). This growing interest has stemmed, in part, from educators and yoga teachers who have felt called to implement school-based yoga and mindfulness to help youth develop skills and traits such as self-regulation, self-awareness and the ability to cope with the stressors of modern life (Hyde & Johnson, in press). These grassroots yoga and mindfulness initiatives have led to an increased interest among scientists in studying the effects of these programs (Chung, 2018; Felver, Celis-de Hoyos, Tezanos & Singh, 2016; Khalsa & Butzer, 2016). This initial research on yoga and mindfulness in schools is preliminary, but promising. For example, recent systematic literature reviews and meta-analyses suggest that school-based yoga and mindfulness may have beneficial effects on outcomes such as mental health, well-being, prosocial behavior, social-emotional skills, cognitive performance, and resilience to stress (Carsley, Khoury & Heath, 2018; Felver et al., 2016; Khalsa & Butzer, 2016; Maynard, Solis, Miller & Brendel, 2017; Zenner, Herrnleben-Kurz & Walach, 2014).

Given that research on school-based yoga and mindfulness is a relatively new field, many of the initial studies in this area were pilot trials (e.g., Beauchemin, Hutchins & Patterson, 2008; Berger & Stein, 2009; Broderick & Metz, 2009; Napoli, Krech & Holley, 2005; Stueck & Gloeckner, 2005). This situation has begun to shift, however, as scientists have made calls for more rigorous research (Felver et al., 2016; Khalsa & Butzer, 2016). These calls have resulted in several rigorously conducted studies of yoga and mindfulness in schools, some of which were government funded (e.g., Butzer, LoRusso, Shin & Khalsa, 2017; Levitan et al., 2018). While these well-designed quantitative studies have provided a much-needed dose of rigor to this field,

they have not been able to paint the whole picture. Indeed, some quantitative studies of school-based yoga and mindfulness have produced null effects (e.g., Haden, Daly & Hagins, 2014; Hagins, Haden & Daly, 2013; Huppert & Johnson, 2010; Maynard et al., 2017) or even counterintuitive effects such as increases in student self-reports of negative affect (Haden et al., 2014) and perceived stress (White, 2012), as well as increased psychological symptoms and reduced life satisfaction (Tharaldsen, 2012). In addition, some previous research has found that while classroom teachers report significant changes in their students' behavior after participating in school-based yoga and mindfulness programs, their students do not report changes (e.g., Ehud, An & Avshalom, 2010; Steiner, Sidhu, Pop, Frenette, & Perrin, 2013).

These inconsistent findings suggest that alternative research methods may be necessary to fully elucidate the subtle and nuanced effects of yoga and mindfulness in schools. Along these lines, several researchers have opted to use qualitative methods to study school-based yoga and mindfulness. These qualitative studies tap into the rich, multifaceted aspects of school-based contemplative programs, often by capturing stories and narratives from study participants, school staff and intervention instructors (Butzer, LoRusso, Windsor, et al., 2017; Cook-Cottone, Estey & Guyker, 2018; Cook-Cottone, Lemish & Guyker, 2017; Hyde & Johnson, in press). In general, qualitative studies of school-based yoga and mindfulness tend to report positive outcomes, such as increased self-awareness and emotion regulation, improved impulse control, and reduced stress (e.g., Butzer, LoRusso, Windsor, et al., 2017; Conboy, Noggle, Frey, Kudesia & Khalsa, 2013; Dariotis, Cluxton-Keller, et al., 2016; Dariotis, Mirabal-Beltran, et al., 2016; Wang & Hagins, 2016).

Very few studies, however, have intentionally combined quantitative and qualitative research methods within the same research design. These studies, while relatively few in number,

sometimes report inconsistencies between the quantitative and qualitative results (e.g., Butzer, LoRusso, Windsor, et al., 2017; Levitan et al., 2018; Sibinga, Perry-Parrish, Thorpe, Mika & Ellen, 2014; Tharaldsen, 2012). In most cases, the quantitative outcomes fail to produce statistically significant results, whereas participants report benefits in qualitative interviews or focus groups. For example, Sibinga et al. (2014) conducted a small, mixed-method randomized controlled trial of mindfulness-based stress reduction (MBSR) for urban youth, and found that when compared to an active control condition, participants in the intervention group did not report statistically significant post-program differences on quantitative outcomes related to psychological symptoms, coping and program experience. However, qualitative interviews revealed that participants in the MBSR program reported increased calm, conflict avoidance, self-awareness and self-regulation. These findings suggest that the qualitative interviews were able to highlight effects of the intervention that did not emerge on the quantitative outcomes.

Taking a Transpersonal Perspective

While both quantitative and qualitative studies have reported positive effects of school-based yoga and mindfulness programs, there appear to be some inconsistencies in the reported literature in this field. In addition, the current materialist/reductionist scientific paradigm tends to emphasize quantitative studies (Beauregard, Trent, & Schwartz, 2018), therefore the depth and complexity reported in qualitative studies is often under-valued (Hyde & Johnson, in press). For these reasons, most of the peer-reviewed, published studies of school-based yoga and mindfulness do not report or take into consideration the potential transpersonal and transformational effects of these interventions on the researchers, intervention instructors, and future readers.

This state of affairs is truly unfortunate, as an informal discussion with most people who have been involved with implementing yoga or mindfulness in a school will quickly reveal the multifaceted, complex, and often transformational aspects of this work. These details are often left out of scholarly articles because researchers do not want to appear “unscientific” or be accused of reporting anecdotal evidence. This is understandable given the current scientific paradigm, however I, along with others (Hyde & Johnson, in press) believe that it is time for this information to be peer-reviewed and published alongside rigorous randomized controlled trials in the interest of providing full transparency and moving this field forward.

What Are Transpersonal Research Methods?

Yoga and mindfulness are inherently transpersonal and transformational practices, thus it makes sense to begin to study these practices using transpersonal research methods. However, transpersonal research methods are rarely taught in most mainstream universities, despite the fact that the seminal textbook on these methods was published 20 years ago (Braud & Anderson, 1998). This means that most researchers who study yoga and mindfulness for youth were trained within the standard paradigm that emphasizes quantitative rigor. Understandably, these researchers have designed studies of school-based yoga and mindfulness to fit within the strict confines of quantitative research, despite the fact that day-to-day life in a school typically looks nothing like the standardized rigor that the researchers have in mind. These quantitative studies have value in terms of attempting to report replicable statistical patterns and results, however transpersonal research methods can add additional value by focusing on the potentially transformative effects of school-based yoga and mindfulness for everyone involved in the study.

While a detailed description of transpersonal research methods is beyond the scope of this paper (for more information, see Anderson & Braud, 2011; Braud & Anderson, 1998), I will

provide some general context. Transpersonal research methods were developed within the field of transpersonal psychology as an alternative approach to studying the nature of *inner experiences*, particularly transpersonal and spiritual experiences. Transpersonal research methods suggest that everyone who is involved in research, including participants, scientists and readers, has the potential to change or be transformed in some way through their participation.

Several transpersonal research methods have been developed, such as intuitive inquiry, integral inquiry and organic inquiry. While these methods differ slightly in their specific approach, they share several common themes such as acknowledging multiple ways of knowing, emphasizing the subtle and complex evolution of research, encouraging the researcher's ability to study topics that are personally relevant and meaningful, a focus on experientially-based topics, and an emphasis on the potential for everyone involved in the research to enjoy the process (Anderson & Braud, 2011). All three approaches also emphasize using transpersonal methods and skills as an *explicit and intentional* part of the research process. These methods and skills include practices such as quietude, mindfulness, unconscious processes, intention, intuition, direct knowing, play, creative arts, and embodied writing. Transpersonal research methods also emphasize tapping into multiple senses to inform the research, such as visual, auditory, visceral and movement-related senses (Anderson & Braud, 2011). For example, a researcher might use practices that enhance quietude, such as meditation, to access a bodily felt sense of how to best approach their data. Similarly, a researcher might tap into unconscious processes by intentionally asking for dream-based advice about a research project. As an additional example, a researcher might engage in arts or play-based techniques such as dance or collage to help answer a research question.

To traditional researchers, these techniques might sound obscure or even ridiculous. However, from a transpersonal perspective, these approaches can enrich the research process in a variety of ways. Indeed, transpersonal research methods are offered as an approach for moving beyond the prevailing materialist paradigm by re-infusing research with a sense of wonder, creativity, complexity and meaning. As Anderson and Braud (2011) suggest, "...it may be time to re-enchant our methods of inquiry and related epistemologies with the rigors and vigor of imagination and more fully dimensionalized concepts and theories. Instead of tightening controls, we propose the rigors of full disclosure and complexity (p. 4)."

The Purpose of This Paper

Transpersonal research methods hold rich potential for the study of school-based yoga and mindfulness, however there are no peer-reviewed, published studies that provide examples of what this approach might look like in actual practice. Therefore, the purpose of this paper is to re-envision a previously published randomized controlled trial of a school-based yoga program through the lens of transpersonal and transformational research methods. I will provide examples of several ways in which the research methods of the project could have been restructured in order to more specifically address the transformational potential of yoga and mindfulness for youth as well as the researchers and intervention instructors who were involved in the study. I will also address the potential for yoga and mindfulness to serve as research methods *in and of themselves*, both for the participants and the researchers. I will conclude by describing how transpersonal research methods may help researchers, participants, and readers more appropriately study and evaluate the complex effects of yoga and mindfulness for youth.

My hope is that this description will bring to light several transformational aspects that likely occur in most studies of school-based yoga and mindfulness, but that are seldom, if ever,

reported in scientific journals. It is also my hope that this description will encourage scientists who study school-based yoga and mindfulness to begin combining transpersonal research methods with traditional quantitative and qualitative techniques, and to report the results of these approaches.

A Randomized Controlled Trial of School-Based Yoga

Our randomized controlled trial of school-based yoga was conducted from 2013 – 2015 with 7th grade students at a public school in Boston, Massachusetts (Butzer, LoRusso, Shin, et al., 2017). Students were randomly assigned to participate in either a 32-session yoga intervention during their physical education class (experimental condition; $n = 117$) or to continue with physical education as usual (control condition; $n = 94$). Students in both groups completed pre- and post-intervention questionnaires assessing a variety of outcomes such as self-regulation, substance use, perceived stress, mood impairment and impulsivity. These questionnaires were also administered at two follow-up periods, 6-months and 1-year post-intervention. The results revealed very few statistically significant outcomes, aside from the finding that participants in the control condition were significantly more willing to try smoking cigarettes immediately post-intervention than participants in the yoga condition. In addition, females in the yoga condition reported improvements in emotional self-control at 1-year post-intervention.

We also conducted a qualitative study with a sub-group of students who had participated in the yoga intervention (Butzer, LoRusso, Windsor, et al., 2017). For this study, we randomly selected 16 students from the yoga condition (8 male; 8 female) to participate in one-on-one interviews with study staff. Using a grounded theory approach (Glaser & Strauss, 1967), we identified 13 themes from the interviews that were related to the usability and effects of the yoga

intervention. In contrast to the quantitative findings, the qualitative interviews suggested that students experienced positive effects of the yoga intervention on outcomes related to stress, sleep quality, and relaxation. Some students also reported a beneficial impact of yoga on self-regulation and substance use.

Similar to the mixed-methods studies described previously, our quantitative and qualitative outcomes provided somewhat conflicting results, and suggest that the qualitative interviews were able to identify effects that were not captured with the quantitative questionnaires. These findings highlight the value of mixed-methods approaches (Creswell, 2014; 2018), particularly when studying interventions that involve contemplative practices such as yoga and mindfulness, as these practices may induce subtle effects that are not always easily accessed through traditional quantitative approaches. However, even our qualitative study did not fully capture the potential transpersonal and transformational impact of our research. Thus in the remainder of this paper I will describe how our study might have explicitly incorporated transpersonal research methods in an effort to more fully explore the impact of our research on all involved – including our participants, intervention instructors, school staff, researchers, and readers of our work.

Re-Envisioning the Study Through a Transpersonal Lens

Transformation of Participants

One of the primary goals of our RCT was to examine the potential impact of a school-based yoga program on substance use and self-regulation in our participants. Thus, as described previously, we took the standard quantitative approach of collecting data via self-report questionnaires, along with a qualitative approach that involved one-on-one interviews. These

modes of data collection provided valuable insights, however they also generated several questions that can potentially be addressed through the lens of transpersonal research methods.

First, there is the question of whether self-report questionnaires are actually the most appropriate method to evaluate the effects of yoga and mindfulness in youth. While some previous research in this area has employed self-report questionnaires and obtained significant results, other mixed-methods studies have provided a more complex picture. For example, in our RCT, very few statistically significant effects emerged on the self-report questionnaires, however most of the students reported beneficial effects of the yoga intervention during the qualitative interviews.

Since most research on school-based yoga and mindfulness is rooted in the current scientific paradigm, these studies have understandably used modes of data collection that focus on rational, logical, cognitive-based knowledge such as self-report questionnaires and observations of behavior. Transpersonal research methods, on the other hand, tend to emphasize multiple ways of knowing in addition to the more well-known quantitative approaches. Indeed, from a transpersonal perspective, a researcher might focus on body-based, image-based, or even intuitional modes of knowing (Anderson & Braud, 2011). For example, a participant may come to learn something new about themselves through body-based knowledge, such as having a “gut feeling” or experiencing “butterflies in their stomach” during a yoga class. Similarly, a participant may experience a sense of comfort from a powerful image that comes to them while meditating. These experiences may be difficult to assess via self-report questionnaires, and may be better suited to narrative or even experiential modes of data collection.

Given that yoga and mindfulness are contemplative practices that tend to encourage non-rational ways of knowing, it is possible that transpersonal research methods may be able to tap

into the effects of these interventions in ways that could greatly complement existing quantitative research. In addition, given that yoga in particular is a body-based intervention, it may be particularly well-suited for outcome measures that emphasize body-based ways of knowing. For example, students could be asked to verbally describe or draw pictures that reflect how their body feels before and after a yoga class. Students might also be asked to describe if and when changes in bodily sensations are linked to changes in behavior, such as using breathing techniques to lower one's heart rate and avoid lashing out at a peer. Similarly, students could be asked to physically demonstrate how yoga feels in their body. Case studies or single-subject research might also be an interesting way to dive deeply into the lived bodily experience of children who participate in school-based yoga and mindfulness. On its own, this data would be considered qualitative and subjective, but when combined with quantitative data such as self-report questionnaires or classroom observations, it could reveal additional insights that may have remained "hidden" in a more traditional study.

In addition, it is possible that children may be more open to alternative modes of knowing than adults, particularly with regard to spiritual or transcendent experiences (Hart, 2005; Hoffman, 1992). Therefore it could be the case that participants in studies of school-based yoga and mindfulness are having experiences that they have difficulty describing verbally or that are not captured in self-report surveys. Transpersonal research methods that focus on alternative ways of knowing may be particularly well-suited for capturing these types of outcomes.

Finally, it may be possible to use yoga and mindfulness as research methods in and of themselves. Transpersonal research methods emphasize the importance of skills and practices such as intention, quietude, slowing, mindfulness and attention throughout a research project, both for the participants and the researchers (Anderson & Braud, 2011). From a participant

perspective, these practices may help foster more accurate and detailed descriptions of the participants' experiences. For example, participants in parapsychology studies are often taken through exercises to help calm their body and mind before testing for psi (Braud & Braud, 2001). Given that students in studies of school-based yoga and mindfulness have spent time being trained in how to calm their body and mind, it may be beneficial to take the students through a short mindfulness practice before they fill out questionnaires, so that the students are potentially more aware of their current state and/or experiences during the intervention. Of course, this research design introduces a potential confound, in that the intervention that is being studied is given immediately before the outcome measures, however this approach is commonly used in studies that administer self-reports immediately before and after a single yoga or mindfulness class (e.g., Felver, Butzer, Olson, Smith, & Khalsa, 2015). One way to tease out the potential effects of engaging in a short yoga or mindfulness practice immediately before self-report administration would be to separate the intervention group into two groups: one group that completes questionnaires or interviews without a short contemplative practice beforehand, and another group that practices yoga/mindfulness immediately before completing the questionnaires/interviews.

With regard to our RCT, the qualitative interviews revealed that some students did in fact experience beneficial effects of the intervention. However, it is possible that our participants experienced other transformations that simply were not captured via our traditional quantitative and qualitative approaches. In summary, transpersonal research methods offer a promising avenue for fully elucidating the potentially subtle and transformational effects of school-based yoga and mindfulness on students.

Transformation of Intervention Instructors & School Staff

Our RCT involved seven yoga instructors who delivered the intervention. Two of the instructors served as the lead teachers, while the other five instructors acted as assistants to help with tasks such as setting up props, taking attendance, helping students with alignment, and general classroom management. Each yoga class was taught by one lead teacher and assisted by one assistant. All of the yoga instructors had received training in the Kripalu Yoga in the Schools program (KYIS, 2019), an intervention that was specifically designed to teach yoga and mindfulness within school settings.

Our RCT did not focus on the potentially transformative or transpersonal effects of the study on the yoga instructors, which is, in retrospect, rather unfortunate. It was obvious, at least anecdotally, that serving as a yoga instructor for our RCT was profoundly transformational for several of the yoga instructors. For example, one of the lead yoga instructors was also a classroom teacher who quit her teaching job in another state in order to move to Boston for the sole purpose of teaching yoga in our study. After our study was complete, this teacher did not return to her previous job, and instead decided to found a state-wide youth yoga movement. In addition, many of our yoga instructors are still involved with teaching yoga to youth around the United States based on the experience that they gained during our study.

The intervention that the yoga teachers implemented was quite intense, due to the large number of participants (215 students in the yoga group) and the length of the intervention (thirty-two, 35-minute yoga classes over a period of 6 months). Over the course of the intervention, the lead yoga teachers taught a combined total of approximately 256 yoga classes (i.e., 8 physical education class sections that received approximately 32 yoga classes each). This meant that the lead teachers and assistants spent a relatively large amount of time with our participants, and they got to know some of the students rather well. From a qualitative perspective, it would have

been useful to interview the yoga instructors to ask about their opinions on the effects of the intervention. Our research team did conduct a post-intervention qualitative focus group with all of the yoga teachers, however this focus group was not part of the formal study, its results were not published, and it focused more on the feasibility of the yoga intervention rather than the potential effects of the study on the instructors or participants.

From a transpersonal and transformational perspective, it would have been useful to engage in a formal inquiry around the yoga instructors' personal experiences of teaching the program. For example, did the teachers experience any changes in their lives, or in the way that they teach yoga to youth, as a result of participating in our study? This is a question that is rarely, if ever, asked in published studies of school-based yoga and mindfulness. The opinions of the intervention instructors are not often considered because it is assumed that the instructors will be biased toward positive effects of the intervention. While this may be the case, not including the intervention instructors in the formal analysis leaves out a huge piece of the research puzzle. In fact, it could be argued that leaving the intervention instructors "out of the equation" in order to maintain objectivity and rigor is a form of de-valuing the opinions of the people who actually spent the most time with the participants during the study. Instructor opinions could be included in future studies of yoga and mindfulness in schools while maintaining checks and balances for objectivity by combining quantitative, qualitative and transpersonal approaches.

Based on informal conversations with the instructors, it is clear that most of them believed that the intervention had a positive effect on the students. The fact that the quantitative RCT did not uncover many statistically significant effects was of little consequence to the instructors, who were on the front lines and had confidence in the beneficial impact of the intervention. These opinions could, of course, be biased. Nevertheless, from a transpersonal

perspective, the instructor's opinions have value, and it is worthwhile to consider the potentially transformative impact of the study on the instructors, regardless of the mostly null quantitative findings.

There were also several members of the school staff who played a large, yet subtle, role in our RCT. In particular, we worked with senior school administrators and physical education teachers in order to gain access to the appropriate students for the intervention and to obtain informed consent, as well as to organize the students' schedules for the yoga classes. Based on the structure of the yoga intervention, we essentially removed half of the 7th grade cohort from their regular physical education classes for approximately 6 months of the school year. Anecdotally, we were aware that these changes caused some disruption, particularly for the physical education teachers, as some of the teachers were not entirely on board with their students being taken out of physical education for most of the school year. However, we were also aware, anecdotally, that one of the physical education teachers had been trying to teach yoga at the school for several years, but had been unable to do so because the school would not add yoga mats to their budget. Our RCT was federally funded, which meant that we purchased the yoga mats and props for the school, and when the study was complete we allowed the school to keep these materials. This particular physical education teacher went on to teach yoga to her students for several years after our study was complete, until her retirement last year. After our study was complete, this physical education teacher also went on to publish a book about spirituality for teens – a book that she had been meaning to publish for years but had never gotten around to doing. She shared with us that our study motivated her to put her work out into the world, which she continues to do through actively participating in wellness conferences and social media campaigns.

From a transpersonal perspective, our RCT was profoundly transformational for this teacher. However this “finding” did not make it into our published quantitative or qualitative studies because we did not formally assess the opinions and experiences of the school staff who were part of our study. It is possible that other transformations occurred as well. For example, perhaps some of the initially skeptical physical education teachers might have transformed their opinions about yoga after they started to see beneficial effects in their students. It is also possible that the senior school administrators might have developed an increased appreciation for the research process after working with our research team over a period of two years. Conducting focus groups or interviews with these individuals would have been one way to access this information, which could have been combined with the quantitative results to provide a richer understanding of the potentially transformational experience from the school’s perspective.

Transformation of Researchers

From the very beginning of the research process, transpersonal methods emphasize using a variety of skills in order to enhance the potential transformative impact of the research. As mentioned previously, researchers are encouraged to intentionally activate multiple ways of knowing by engaging in practices such as quietude, slowing, mindfulness, play, and creative arts, as well as accessing information from subtle sense perceptions and even through unconscious processes (Anderson & Braud, 2011). These approaches are rarely, if ever, used by “mainstream” scientists, and even if they are used, they are typically implemented in an informal way and are rarely reported in published research.

Our RCT was no exception to this situation. Our study was based on the currently dominant research process that involves applying for and (hopefully) receiving federal funding based on gaps that we (logically and rationally) identified in previous research. We conducted

our study in an “objective,” systematic fashion. We developed specific hypotheses in advance, we used previously validated questionnaires to evaluate those hypotheses, and we used conventional statistics to assess the outcome of our intervention. Even our qualitative study was conducted with rigor. Our interviewers were recruited separately from the RCT and were not aware of our hypotheses, our transcripts were anonymous and double-coded, and we randomly selected a sub-section of students to participate in the interviews. After both studies were complete, we published our studies in peer-reviewed journals in the hope of receiving additional grants in the future.

There is absolutely nothing wrong with this process, and our team practiced “good science” by following this approach. However, from a transpersonal perspective, there were many lost opportunities throughout the project where we could have used transpersonal research methods. In addition, there were several transformational effects of the study on the researchers, however these effects were considered anecdotal and were therefore not published.

With regard to research methods, it would have been intriguing if the researchers had used practices such as yoga and mindfulness as research methods in and of themselves. The entire research team had extensive experience with yoga and mindfulness, and it would have been useful to explore how these practices could have been used in a formal and systematic way to enhance the research process. As Anderson and Braud (2011) suggest, “By identifying, practicing, and perfecting these [contemplative] skills, a researcher can more effectively confront the whole of what is studied with the whole of his or her being (p. 162).”

For example, our research team might have intentionally and systematically used yoga and mindfulness to quiet and slow our minds throughout the research project. During the preparatory and data collection phases, we could have used these skills to remind ourselves of

the importance of the research and why we were doing it, or to help us “break set” in order to become more creative about how to conduct the study. During the data treatment and interpreting stage, we might have used these skills to help ourselves develop a “beginner’s mind” and become more aware of potential biases, or increase the likelihood that we might be able to access a bodily felt sense or intuition about the most appropriate way to approach the data. During the reporting or communicating stage of the research project we might have used these skills to imagine potential audience reactions and use this information while writing the manuscripts, or to have an open mind when considering the most appropriate avenues for publication (Anderson & Braud, 2011).

Given that most of the members of the research team had regular (often daily) yoga and/or meditation practices, it is likely that these skills were being used in an informal capacity in relation to the research project. The key point, however, is that these practices were not used *intentionally* as part of the research. In other words, these practices were not systematized, evaluated, or published. To make full use of the transpersonal approach, it would have been useful to intentionally engage in these activities with the goal of publishing the results. For example, before analyzing our data, our team might have decided to spend one week devoting a daily meditation practice to our data. We could have performed these meditations individually or as a group, recorded our insights and ideas, and shared them with each other. In the published report, we could have shared the ways in which our meditations informed our approach to the data.

To extend even further into the transpersonal realm, our team might have intentionally evoked body-based knowledge through yoga practice, or enhanced intuition through dream incubation, which involves asking our “dream maker” for research advice. We might have used

visual arts such as collage, or a “sandplay” exercise in which we gathered a number of objects related to our research topic and invited our imagination to help us arrange and interpret the objects to inform some aspect of our study (Anderson & Braud, 2011). Again, the key point would be to engage in these activities with the intention of reporting how the practices informed the research project.

It is likely that the logical, rational scientist within most of us cringes at the idea of engaging in these types of activities during a formal, rigorous research project. However, I would argue that many scientists who study yoga and mindfulness, and who engage in these practices regularly, are aware of the subtle (and sometimes not so subtle) ways that non-rational processes and non-linear thinking can affect their research. For example, historical accounts and research studies suggest that important insights can be gained during sleep and through dreams (Mazzarello, 2000; Wagner, Gais, Haider, Verleger, & Born, 2004). In addition, many of us have experienced moments of synchronicity when the perfect collaborator, conference or article falls into our lap. These experiences might seem rare, possibly because they are not typically reported in scientific journals, however they do occur (Coleman, Beitman & Celebi, 2009; Beitman, 2016). It is possible that the intentional use of transpersonal research methods, and reporting the results, might not only enhance or invoke these types of experiences (Crane, 2018), but also re-infuse the scientific field with the sense of wonder that is so important to scientific discovery. It is likely that many scientists in this field long for ways to approach their research in a more holistic fashion that includes, but also goes beyond traditional methods and statistics. Transpersonal research methods provide one such option. And while these approaches might not be mainstream, they can become mainstream if enough scientists have the courage to engage in them and report the results.

With regard to the potential transformational impact of our RCT on the researchers, I can say that personally, being part of the study profoundly transformed my life. In my role as a postdoctoral research fellow, I functioned as a project manager who organized and assisted with all aspects of the study, such as obtaining informed consent, administering questionnaires, overseeing the intervention schedule, analyzing data, writing the final papers, and putting out any fires that came up along the way. I experienced many transformational effects from being part of this study, however for the sake of brevity I will focus on only a few. The first transformational aspect of the project was that I had to leave my home, friends and family near Toronto, Canada and start a new life in Boston in order to begin my position as a postdoctoral fellow at Harvard Medical School. This had an impact not only on my own life, but on my husband's life, and on the lives of the people we left behind. Taking this new job also meant that I met new friends and colleagues, many of whom are still in my life today. I was also able to add Harvard Medical School to my CV, a fact that does not go unnoticed by potential employers and that I am sure will continue to have an impact on my professional life.

One of the major transformational aspects that I encountered while working on the study was a growing dissatisfaction with the current ways that we “do science” in universities. I grew exhausted from the continuous process of writing grants, getting rejected, and working overtime in a job that was only stable for one or two years at a time. In addition, as researchers in the field of open science argue, there are several practices that pose threats to the integrity of research, such as p-hacking, HARKing (hypothesizing after results are known), file drawer effects, and difficulties with replication (LeBel, Campbell & Loving, 2017; Munafò et al., 2017). The field of school-based yoga and mindfulness is no exception to these issues, many of which I encountered during my work on this project.

I also became keenly aware of what I believe is a “shadow side” of research on yoga and mindfulness in schools. This shadow involves the biases that most (if not all) researchers in this field possess, yet are rarely (if ever) explicitly stated or reported. Most scientists in this field have a hidden (or not so hidden) agenda to make yoga and/or mindfulness a component of the standard education curriculum. This bias is not bad or wrong, as Anderson and Braud (2011) suggest, “What may seem like a researcher’s zeal for a topic may be the tip of an iceberg of a call for change from the culture at large (p. 17).” However, this sometimes zealous desire to “get yoga and mindfulness into schools” can impact all stages of the research project, from the hypotheses that are developed, to the way that interventions are implemented, to the ways that data are analyzed and reported. For example, during the time that I was part of the “conference circuit” for yoga and mindfulness for youth, I encountered many researchers who were not publishing their null or counterintuitive effects, choosing instead to present them as posters at a conference, or not present them at all (i.e., the file drawer effect). In addition, I started to feel like a yoga and mindfulness “pusher.” In other words, I was trying to push schools to implement these programs, sometimes without considering the larger systemic issues of the school or education system as a whole. I started to feel like yoga and mindfulness were being treated as the new Ritalin, as a technique to help children sit down, be quiet, and pay attention within an outdated system that may not be adequately addressing their need to simply be children.

These issues are common across many disciplines, particularly for scientists who do research on preventive interventions, and these issues represent a broader problem for science as a whole. But for me personally, these broad issues directly impacted the study I was engaged in, and ultimately led to my decision to quit my postdoctoral fellowship. After much contemplation, in 2015 I decided to leave Harvard Medical School and live in a cabin in the woods for two

months. After this, my husband and I moved to Europe, where I now hold a position as a Lecturer in the Psychology Department at the University of New York in Prague (UNYP). After moving to Prague, I “discovered” transpersonal research methods while teaching an undergraduate Positive Psychology course at UNYP. Then, in a wonderfully synchronistic fashion, the 2017 International Transpersonal Conference (ITC) and Transpersonal Research Colloquium (TRC) happened to take place in Prague (for the first time in 25 years). My attendance and presentation at the TRC is what inspired the writing of this article.

It is obvious that serving as a postdoctoral research fellow for a study of a school-based yoga intervention had a profoundly transformational impact on my life. This transformation has never been published in a peer-reviewed journal, which is why I am publishing it now. Coming to write this paper has been a process of personal integration that took five years. I needed to develop the courage to publish something that might be deemed “unscientific” by my colleagues, or that might not pass the standard of peer review because it is too subjective. I believe that many scientists who study yoga and mindfulness in schools have experienced similar transformations simply by virtue of leading these types of research projects. I encourage these researchers to not only pay attention to these transformations, but to publish them along with their quantitative or qualitative results. Our personal narratives not only make our articles more interesting, but they also reveal how our studies are not only transforming our participants – they are transforming us as well.

Transformation of Readers

One aspect of scientific research that is seldom, if ever, evaluated or reported is the potential transformational effects of the research on the audience that reads the study. From a transpersonal perspective, the intended audience is taken into consideration throughout the

research project (Anderson & Braud, 2011; Braud & Anderson, 1998). For example, at the beginning of a research project the researcher might enter into a meditative state with the intention of identifying the most suitable target audience for his or her study. While the traditional scientific paradigm emphasizes publishing in peer-reviewed journals, the transpersonal scientist may realize, through deep introspection, that their research is better-suited for a broader audience and therefore decide to report their results in a popular book, blog, and/or video. A transpersonal scientist might also design their research with the explicit intention to facilitate transformational changes in the researcher, the participants, and the audience that will eventually read the work. As Anderson and Braud (2011) state, “Changes in the very being of these persons may, in ways that we do not fully understand, contribute importantly to personal, social, cultural, and planetary changes (p. 127).”

It is likely that many of the scientists who engage in research on school-based yoga and mindfulness have the intention to transform the lives of the students who participate in their interventions. However, these scientists rarely consider the intended audience of their published papers, or the impact of their published research on potential readers. Some researchers might argue that they do consider the intended audience, and that the intended audience is the readers of peer-reviewed journals so that we can move this field forward scientifically. I suggest, however, that many researchers in this field also carry the intention for their research to influence policy changes within education. If this is, in fact, the case, then it would behoove scientists within the field of school-based yoga and mindfulness to fully consider the most appropriate avenue(s) for publication. If transformation in education policy is the target, then publishing in education journals might be most appropriate. In this case it might also be useful to attend education conferences or present the results of one’s study to a school district, a group of

superintendents, or others who sit at the state or national policy level. Similarly, it might be useful to write blogs that share research findings in palatable ways for classroom teachers to present to their principals.

It is understandably difficult for scientists to devote time to writing blogs or presenting at schools, given that these activities are not typically rewarded from a promotional or tenure-track perspective within the current university system. However, transpersonal research methods emphasize full intentionality when conducting research, and if one's true intention is to change policy, then one must go where this intention takes them. This is easier said than done, of course, but systemic change often involves stepping outside of current boundaries, sometimes at the risk of one's own professional advancement or reputation (LeBel et al., 2017).

With regard to our RCT, we did not evaluate the potential transformational impact of our study on the readers of our work. It is possible that our studies are being cited in reports that are being used to change education policy, but we have not tracked this information. We are also not aware of how our published studies might have impacted the school where the study was conducted. When our studies were published, we shared a PDF copy of the articles with our school contacts via email, however we do not know what impact, if any, these papers had on the school. As is all too often the case with funded projects, when the funding runs out, the scientists and intervention instructors disappear. There is not usually time left over at the end of a study to present your findings to the population of interest (such as the school). And in most cases, there is no longer funding available to continue the intervention. In our RCT, we were fortunate that one of the physical education teachers continued to teach yoga and mindfulness in our absence, but from a formal research perspective we do not know whether or how our study impacted the school after the study was complete.

Future researchers who study yoga and mindfulness in schools could incorporate transpersonal approaches by fully considering their intended audience at the beginning of their research project, as well as the potential transformative effects of their intervention on all stakeholders, including future readers. This might be accomplished by writing grants in a fashion that includes time and resources to measure the impact of the study on readers, perhaps by assessing article download statistics, number of citations, or even surveys or interviews with readers. For example, a researcher might ask a few members of the intended audience to read the results before they are published, and then describe any potential transformational effects on readers in the final published report. It would also be useful to write grants that include a quantitative or qualitative analysis of as many key stakeholders as possible, including school staff and intervention instructors.

Discussion

Transpersonal research methods are an under-utilized approach that could add great value to studies of yoga and mindfulness in schools. Scientists who study school-based yoga and mindfulness have the potential to contribute a level of richness and depth to this field that has remained largely unpublished to date. They can do this by intentionally and explicitly considering and reporting the transpersonal and transformational aspects of their research not only on participants, but also on intervention instructors, readers, and on the researchers themselves. And while it is true that this type of information might be considered subjective, it can be combined with more traditional quantitative and qualitative methods in a true mixed-methods design (Creswell, 2014; 2018) as a way to provide a more complete picture of the effects of school-based yoga and mindfulness.

Given that transpersonal research methods are not considered “mainstream,” the question becomes how to begin implementing these methods in a systematic fashion, and how to eventually publish the results. A first step in this regard could be to learn more about, and perhaps obtain training in, transpersonal research methods. While courses in transpersonal research methods are not taught at most universities, readers could refer to the two existing textbooks on these methods written by Rosemarie Anderson and William Braud (1998; 2011). Anderson and Braud (2011) provide numerous practical exercises to help scientists take a transpersonal approach throughout the entire research process. For readers who would like more in-depth training, universities such as Sofia University (www.sofia.edu), the California Institute of Integral Studies (www.ciis.edu) and the Alef Trust (www.aleftrust.org) offer courses that include training in transpersonal research methods, some of which are offered online. In addition, scientists could partner with a researcher at one of these institutions in order to conduct a transpersonal study of yoga and mindfulness in schools. This type of partnership would encourage the inter-disciplinary collaboration that is so often missing from science today. Indeed, the current scientific paradigm has many researchers working in isolation, seeing potential colleagues as “competition” for limited grant funding and other resources. Partnering with someone who is well-trained in transpersonal psychology could encourage a cross-pollination of methods and produce a richer research output.

An additional approach for those interested in learning more about transpersonal research methods would be to read published studies that have taken this approach. Along these lines, Rosemarie Anderson and her colleagues developed a “Sacred Science Circle” website that serves as a repository for many full-text publications that used transpersonal research methods (www.sacredsciencecircle.org). In addition, Anderson and Braud (2011) provide numerous

examples of research that has used intuitive, integral and/or organic inquiry. Unfortunately, many of these studies are unpublished doctoral dissertations, perhaps due in part to a reluctance from mainstream journals to publish these types of results. Three suggestions could be offered on this point. First, I would encourage journal editors to become more open-minded to alternative types of research methods, particularly when these methods are used in a systematic and intentional fashion. Second, I would encourage students and scientists who conduct research using transpersonal methods to publish their work in peer-reviewed journals. Journals such as the *Journal of Transpersonal Psychology*, the *Journal of Humanistic Psychology*, *The Humanistic Psychologist*, the *International Journal of Transpersonal Studies* and the *Journal of Transformative Education* would be particularly open to these types of studies. Third, I would encourage researchers to explicitly combine transpersonal methods with traditional quantitative and qualitative approaches by using one of the mixed-methods designs outlined by Creswell (2014; 2018). This approach would likely enhance the possibility that the research will be deemed acceptable by journals.

These mixed-method approaches would not only enhance the likelihood of publication, but they would also enhance the field as a whole by offering a multi-faceted, rich and detailed description of the effects of yoga and mindfulness in schools. This mixed-methods approach could start at the very beginning of the research process, by writing grants that include transpersonal scientists as collaborators and that explicitly include the time and resources necessary for taking a truly transpersonal approach. Traditional funding mechanisms such as the National Institutes of Health (NIH) in the United States and the National Institute for Health Research (NHS) in the UK have started to encourage mixed-methods approaches. In addition, there are other agencies that are particularly open-minded about funding transpersonal topics and

alternative research methods, such as the Mind & Life Institute in the United States (www.mindandlife.org) and Europe (www.mindandlife-europe.org).

Future Research

I have provided numerous suggestions for future research throughout this paper, thus I will only briefly summarize here. Scientists who are interested in taking a transpersonal approach can do so in a variety of ways. One way would be to begin explicitly using and reporting transpersonal research skills in their studies. For example, a researcher who is interested in studying yoga and mindfulness in schools might engage in skills such as quietude, slowing, direct knowing, play, and/or creative arts during the preparatory and data collection stage, the data treatment and interpreting stage, and/or the reporting/communicating stage of the research project. The key here would be for the researcher to not only engage in these skills, but to report on their experience in the final published paper.

A more in-depth approach would be to explicitly use intuitive inquiry, integral inquiry or organic inquiry in a research project of school-based yoga and mindfulness. For example, for intuitive inquiry, the researcher might conduct a qualitative study that incorporates intuitive and compassionate ways of knowing into the research process, as well as hermeneutic, iterative cycles of interpretation. From an integral inquiry perspective, the researcher might consider the transformative potential of the research for the discipline at large as well as participants, readers, and researchers, while also paying attention to a variety of evidential sources and employing multiple ways of knowing. From an organic inquiry perspective, the researcher might intentionally use their psyche in partnership with liminal and spiritual influences throughout the research process, while focusing on transformation as well as information gathered from participants' personal stories, and actively engaging in the research phases of preparation,

inspiration, and integration (Anderson & Braud, 2011). These in-depth approaches would likely require supervision or collaboration with scientists who have used or are explicitly trained in these methods, for which I provided several resources above.

Conclusions

Transpersonal research methods are particularly well-suited for studying the subtle, nuanced, and potentially transformative effects of yoga and mindfulness in schools. Unfortunately, researchers within this field seldom use these methods, perhaps due in part to the prevailing scientific paradigm that emphasizes quantitative results. In the current paper I have attempted to more fully elucidate the value of transpersonal research methods while also highlighting an undercurrent of transformation that often occurs in studies of school-based yoga and mindfulness, but that is rarely reported.

The methods and approaches that I have described in this paper might seem subjective, provocative, or difficult to implement. From a broader perspective, I am suggesting that scientists fundamentally update the ways that we do research in order to make our studies more inclusive of a variety of methodological approaches as well as multiple ways of knowing. This is a challenging call to action that will not be easy to execute and that will require fundamental changes at a variety of levels within science. I would argue, however, that scientists who study school-based yoga and mindfulness are up to this challenge. We can use our yoga and mindfulness skills to practice “off the mat/cushion” by encouraging interdisciplinary collaboration, mixed-methods approaches, and more human/humane ways of doing research. By working together we can paint a more inclusive picture of the effects of school-based yoga and mindfulness that transforms not only our participants, but also our readers, ourselves, and even science as a whole.

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