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A Consideration of Transpersonal Research Methods for Studying Yoga and Mindfulness in Schools

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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 and/or 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 additional research approaches, such as transpersonal research methods, to study the potential 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-envisioned 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 richer and more complex evaluation of yoga and mindfulness in schools.

Keywords: *yoga, mindfulness, school, education, qualitative*

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 et al., 2015). This growing interest has stemmed, in part, from educators and yoga/mindfulness 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, 2019). These grassroots yoga and mindfulness initiatives have led to an increased interest among scientists in studying the effects of these programs (Chung, 2018; Felver et al., 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 et al., 2018; Felver et al., 2016; Khalsa & Butzer, 2016; Maynard et al., 2017; Zenner, Herrnleben-Kurz & Walach, 2014).

However, it is important to note that some studies of school-based yoga and mindfulness have produced null effects (e.g., Haden et al., 2014; Hagins et al., 2013; Huppert & Johnson, 2010; Maynard et al., 2017). In addition, some studies have reported 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). Some previous research has also 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 et al., 2010; Steiner et al., 2013).

These inconsistent findings suggest that additional research is necessary to fully elucidate the potential 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 et al., 2017a; Cook-Cottone et al., 2018; Cook-Cottone et al., 2017; Cook-Cottone et al., 2020; Hyde & Johnson, 2019). 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 et al., 2017a; Conboy et al., 2013; Dariotis et al., 2016a; Dariotis et al., 2016b; Wang & Hagins, 2016).

Very few studies, however, have intentionally combined quantitative and qualitative research methods within the same research design. These studies sometimes report inconsistencies between the quantitative and qualitative results (e.g., Butzer et al., 2017a; Levitan et al., 2018; Sibinga et al., 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.

It is not uncommon for different methodological approaches to produce different findings, and this lack of consistency could be related to methodological issues in the quantitative study, qualitative study, or both. At the very least, these inconsistent findings suggest that researchers in this field need to carefully consider their methodological approach and that additional research is needed. The purpose of the current paper is to propose that transpersonal research methods might help address this issue by serving as a useful complement to existing quantitative and qualitative studies of yoga and mindfulness in schools. This is not to say that transpersonal methods are the only (or the optimal) approach to take when studying school-based contemplative programs. Rather, the current paper argues for a thoughtful consideration of when and how transpersonal research methods might be combined with existing qualitative and quantitative approaches.

What Are Transpersonal Research Methods?

Modern yoga and mindfulness interventions have their roots in ancient practices that were developed to be spiritually transformative (Bryant, 2015; Maex, 2011), and while it is important for modern school-based interventions to remain secular (Cook-Cottone et al., 2019), some have argued that this secularization might not be entirely possible (Gunther-Brown, 2016, 2019). Indeed, the secular nature of school-based yoga and mindfulness interventions does not preclude the possibility that students might experience transpersonal, spiritual and/or transformational states as a result of these programs. Yet these potential effects are rarely the focus of modern research on yoga and mindfulness in schools. This is understandable given that most researchers in this field work hard to maintain the secular nature of their interventions and studies (Cook-Cottone et al., 2019), especially in light of court cases in the US that have accused these interventions of violating the separation of church and state (Cook-Cottone et al., 2017). However, the empirical question remains of whether participants

(as well as researchers and intervention instructors) might experience transpersonal or transformative states as a result of their participation in these research studies. It is possible that this question could be addressed by weaving transpersonal methods, as well as outcome measures that assess transpersonal constructs (MacDonald & Friedman, 2009), into quantitative and qualitative studies of yoga and mindfulness in schools.

While a detailed description of transpersonal research methods is beyond the scope of this paper (for more information, see Anderson, 2020; 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.

Anderson and Braud (2011), Braud and Anderson (1998) and Anderson (2020) described four main types of transpersonal research methods: intuitive inquiry, integral inquiry, embodied writing, 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 four 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, and creative arts. 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.

Transpersonal research methods are often (although not always) qualitative in nature, thus they are closely related to existing qualitative approaches (Creswell & Poth, 2018). An important distinction between these approaches is that transpersonal methods tend to place a greater emphasis on researcher reflexivity and positionality, in the sense that the researcher's personal experience with the research topic and project, particularly the potential transformational impact of the research project on the researcher, is expected to be a major component of the research output (e.g., scientific papers, conference presentations, etc.). It could also be argued that transpersonal research methods place a stronger emphasis than traditional qualitative methods on the potential transformation of consumers of the research output. In addition, unlike traditional qualitative methods, transpersonal research methods require use of the transpersonal skills mentioned above, such as meditation and body-based practices, to inform the research process, and researchers are encouraged to describe their experience with these practices in the research output. Given that school-based yoga and mindfulness interventions make use of these same types of skills, it is possible that the use of these skills on the part of the researcher might contribute a level of depth, nuance, and complexity that could complement traditional qualitative and quantitative methods. This is, of course, an empirical question that remains to be explored, and transpersonal research methods are not without their challenges (see the Caveat section below for a description of these challenges). Nevertheless, it is possible that transpersonal methods represent an untapped and potentially fruitful approach for studying yoga and mindfulness in schools.

The Current Paper

As discussed above, transpersonal research methods hold potential as a complement to existing qualitative and quantitative methods for studying school-based yoga and mindfulness; however, there are no peer-reviewed, published studies that provide examples of what this approach might look like in practice. Therefore, the purpose of this paper is to re-envision a previously published randomized controlled trial (RCT) of a school-based yoga program through the lens of transpersonal research methods. I published the RCT in collaboration with several other individuals (Butzer et al., 2017b). Specifically, I assisted with conducting the study while I was a postdoctoral research fellow, thus I was involved in all phases of the research, including study design, data collection, and analysis. The study was a collaboration between several co-authors as well as yoga teachers, school administrators, physical education teachers and a nonprofit educational organization (The Kripalu Center for Yoga & Health). In the sections below, when I use the terms “we” and “our,” I am referring to the core team involved in executing the study, including the principal investigator, me, and a research assistant, as well as the project manager from the nonprofit organization and the yoga teachers. In addition, when I use the term “RCT,” I am referring to the specific randomized controlled trial we conducted (the published RCT is available at Butzer et al., 2017b). However, it is important to note that the current paper reflects my opinions and may or may not reflect the opinions of the other individuals who conducted the study with me.

Throughout the current paper, I will provide examples of several ways in which the research methods of our RCT could have been restructured in order to more specifically address the potential transpersonal aspects of yoga and mindfulness for youth as well as the researchers and intervention instructors 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 might help researchers, participants, and

readers in the study and evaluation of the potential transpersonal effects of yoga and mindfulness for youth. I am, in a sense, using transpersonal research methods to re-envision my previously published RCT through a transformational lens.

My hope is that this description will bring to light several transpersonal and transformational aspects that might occur in studies of school-based yoga and mindfulness. 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 RCT of school-based yoga was conducted from 2013–2015 with 7th grade students at a public school in Boston, Massachusetts (Butzer et al., 2017b). 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 (see Butzer et al., 2017a for the published qualitative study). Similar to the RCT, I assisted with all aspects of the qualitative study in collaboration with the same principal investigator and research assistant, along with a qualitative research consultant and several additional research assistants. For the qualitative 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 it is unclear why. Nevertheless, these findings highlight the value of mixed-methods approaches (Creswell, 2014; 2018) as a form of methodological pluralism that allows a phenomenon to be explored from a variety of angles. Indeed, arguments have long been made for the importance of mixed-method approaches within the field of transpersonal psychology (Friedman, 2002, 2013, 2015, 2018).

In the following section, I will describe how our study (both the RCT and the qualitative component) might have made better use of methodological pluralism by explicitly incorporating transpersonal research methods into our design in an effort to more fully explore the potential impact of our research on all involved – including our participants, intervention instructors, school staff, researchers, and readers of our work.

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 among participants. Thus, as described in Butzer et al. (2017b), we took the standard quantitative approach of collecting data via self-report questionnaires, along with a qualitative approach that involved one-on-one interviews (Butzer et al., 2017a). 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 should be used in isolation

(i.e., without including qualitative assessments) when evaluating the potential effects of yoga and mindfulness in youth. As described, some previous research in this area has employed self-report questionnaires and obtained significant results, while other studies have found null or counterintuitive effects. In addition, 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 (despite the fact that we used well validated scales); however, most of the students reported beneficial effects of the yoga intervention during the qualitative interviews.

Transpersonal research methods tend to emphasize multiple ways of knowing in addition to the more commonly used 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 might be difficult to assess via self-report questionnaires and might be better suited to narrative or even experiential modes of data collection. In addition, such transpersonal and/or qualitative methods could be combined with quantitative instruments designed to measure transpersonal and spiritual outcome variables (MacDonald & Friedman, 2009; see the Caveat section below for more on this).

Yoga and mindfulness are rooted in contemplative practices that emphasize personal transformation and non-rational ways of knowing (Bryant, 2015; Maex, 2011), and transpersonal research methods were developed with these same considerations in mind (Anderson & Braud, 2011). Thus, it is possible that transpersonal research methods might be a useful avenue to explore in research on school-based yoga and mindfulness interventions. This suggestion is especially relevant given that yoga is a body-based intervention and thus might be particularly well-suited for transpersonal

methods that emphasize body-based ways of knowing (although variables such as body awareness can also be assessed quantitatively, using self-report questionnaires; e.g., Shields et al., 1989). Along these lines, Ergas (2013) proposed a “body-oriented-pedagogy” based on B.K.S. Iyengar’s approach to yoga, and highlighted how this pedagogy might be particularly useful within the education system. Ergas’s body-oriented-pedagogy emphasizes how one learns from the body and encourages students to develop a sense of “embodied mindfulness,” which allows them to tune into the body before responding on “auto-pilot.”

Anderson and Braud (2011) describe several ways in which body-based knowledge can be accessed and assessed in research studies. In applying these suggestions to research on yoga and mindfulness in schools, researchers might ask students 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. When combined with quantitative data, such as self-report questionnaires or classroom observations, this type of data could reveal additional insights that may have remained “hidden” in a study that focused on quantitative outcome measures in isolation.

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 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 some commonly used self-report surveys (see the Caveat section below for suggestions of quantitative self-report questionnaires that measure transpersonal states and experiences). Transpersonal research

methods might be particularly well-suited for exploring these types of outcomes in depth, as a complement to existing questionnaires.

Finally, it may be possible to use yoga and mindfulness as research methods in and of themselves, as suggested by Anderson and Braud (2011). Specifically, 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. From a participant perspective, these practices may 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, one possibility would be to take the students through a guided meditation and/or movement practice during which they explore their experience of the intervention and then report on it afterwards. Another option would be to take the students through a short mindfulness practice before they fill out questionnaires or participate in qualitative interviews, 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 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 et al., 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 (Butzer et al., 2017b), the qualitative interviews suggested that some students did in fact experience beneficial effects of

the intervention (Butzer et al., 2017a). However, it is possible that our participants experienced other transformations that simply were not captured via our questionnaires and interviews. In summary, transpersonal research methods offer a promising avenue for exploring the potentially subtle 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 one assistant. All of the yoga instructors had received training in the Kripalu Yoga in the Schools program (KYIS, 2019), an intervention 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 6 months; see Butzer et al., 2017b, for a full description of the yoga intervention). 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 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 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, and its results were not published; it focused more on the feasibility of the yoga intervention rather than the potential effects of the study on the instructors or participants.

It would have been useful to engage in a formal inquiry around the yoga instructors' personal experiences of teaching the program (this could have been done within the context of transpersonal research methods or within the qualitative component of the study). 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/or 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 (Butzer et al., 2017b) 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 and 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

Our RCT was based on the currently dominant research process that involves applying for and (hopefully) receiving federal funding based on gaps that we 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 interviewees 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 and skills, or, at the very least, made our qualitative study more inclusive of potential aspects of researcher, yoga teacher and participant transformation. Indeed,

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 transpersonal research skills, 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 used this information while writing the manuscripts, or to have had 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 engage intentionally 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 they 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 et al., 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 et al., 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, Ontario, and start a new life in Boston in order to begin my position as a Postdoctoral Research Fellow at Harvard Medical School. This had an impact not only on my own life, but on my husband's, 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 et al., 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, and as Anderson and Braud (2011) suggested, "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 Prague, where I held a position for several years as Lecturer in the School of Psychology at the University of New York in Prague. After moving to Prague, I “discovered” transpersonal research methods while teaching an undergraduate Positive Psychology course at The University of New York in Prague. 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 seven 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 not only to 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 most academics are encouraged to publish 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 who will eventually read the work. As Anderson and Braud (2011) stated, “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 the 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 underutilized approach that could add 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 potential transpersonal and transformational aspects of their research not only on participants, but also on intervention instructors, readers, and on the researchers themselves. Researchers also have the opportunity to enrich their own experience of the research project by implementing the transpersonal skills described previously (e.g., meditation, intuition, etc.) as an explicit component of the research process. And while it is true that these methods are rather "subjective" in nature, they 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 potential 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 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, researchers often work in isolation, seeing potential colleagues as “competition” for limited grant funding and other resources. Partnering with someone 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) provided 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 are 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, 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*, that would be particularly open to such 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) and by considering the suggestions of authors within the field of transpersonal psychology who advocate for methodological pluralism (Friedman, 2002, 2013, 2015; Friedman & Robbins, 2009). 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 potential 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 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, some other agencies 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).

A Few Caveats for Consideration

It is important to note several caveats to the argument put forth in the current paper. Transpersonal research methods are not without limitation, and they might not always serve as a useful complement to studying yoga and mindfulness in schools. For example, transpersonal methods might be regarded as fringe by mainstream scientists and educators. Therefore, if a researcher’s aim is to promote school-based yoga and mindfulness programs to the mainstream, transpersonal methods might not be the optimal way of doing so. In addition, transpersonal methods carry some risks, such as the possibility of spiritual projection, bias, and narcissism on the part of the researcher (Anderson, 2020). Also, arguments have been made against privileging qualitative approaches in humanistic and positive psychology (Franco et al., 2008). And finally, as mentioned previously, it could be argued that transpersonal methods are so similar to traditional qualitative

methods that they do not add much value beyond what is already methodologically available.

I have several suggestions for addressing these caveats. First, as mentioned above, while transpersonal methods do have much in common with traditional qualitative methods, there are some subtle differences. Indeed, many different approaches to qualitative research exist, yet there are subtle differences between them (Creswell & Poth, 2018). As is the case in any research study, the methodology chosen depends on the topic, research question(s), and intention(s) of the researcher. Some researchers might be interested in promoting school-based yoga and mindfulness in mainstream scientific circles, particularly by employing large randomized controlled trials. Others might be interested in obtaining rich descriptive detail of students' experiences of school-based yoga and mindfulness via a small qualitative study. Others might be intrigued to explore the potential transpersonal aspects of these interventions, including their potential transformation as researcher, by employing some of the transpersonal methods and skills mentioned previously. And others might want to combine all three of these options. The main point is for researchers to be clear with their intentions and to select a methodological approach accordingly.

In terms of privileging qualitative research in transpersonal psychology, I agree with those who suggest that methodological pluralism should be employed in all research fields, rather than privileging one methodological approach over another (Friedman & MacDonald, 2002; Friedman & Robbins, 2009). Indeed, it is possible that studies of yoga and mindfulness in schools would benefit from quantitative research that takes into consideration spiritual and transpersonal outcome measures specifically designed to operationalize variables, such as self-expansiveness, altered states of consciousness, and spiritual transcendence (MacDonald & Friedman, 2009). There are also quantitative self-report questionnaires that measure outcomes, such as body awareness (e.g., Shields et al., 1989), which could be particularly useful in research on school-based yoga. Importantly, the study of yoga and mindfulness in schools is not simply a debate over using qualitative versus quantitative

methods. Instead, a multiplicity of methodological approaches can be used, depending on the unique intention(s) of the researcher. Transpersonal methods are but one approach in the researcher's toolkit and can be used accordingly depending on the researcher's goals.

Finally, the risks of projection, bias, and narcissism can be managed in similar ways as with traditional qualitative research, using techniques such as member checking, external auditors, double-coding, and data triangulation (Creswell & Poth, 2018). Additional approaches to validity have also been suggested for specific transpersonal methods, such as intuitive inquiry (Anderson & Braud, 2011). These reliability and validity techniques take time and resources and might be particularly difficult to implement in studies that take a transpersonal approach. Thus researchers need to think carefully about whether they have the bandwidth to conduct their study with the level of rigor necessary. As with all types of research methods, transpersonal methods need to be approached mindfully and transparently, with due care for potential risks and an eye toward conducting the most scientifically sound research possible.

Future Research

I have provided numerous suggestions for future research throughout this paper, thus I will only briefly summarize here. Scientists 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 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, organic inquiry or embodied writing in a research project of school-based yoga and mindfulness. For example, with 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. Alternatively, a researcher might choose to delve deeply into the embodied aspects of school-based yoga and use embodied writing to highlight proprioceptive and kinesthetic aspects of the experience (Anderson, 2020; 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 an underutilized option that could add value to the study of yoga and mindfulness in schools. In the current paper I have attempted to elucidate the potential 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 might seem subjective, provocative, or difficult to implement. From a broader perspective, I am suggesting that scientists fundamentally update the ways 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 potential 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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