Incorporating physical activity in mental health intervention service delivery: School psychologists’ perspectives

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ABSTRACT

Literature continues to suggest that physical activity is a viable modality in promoting positive mental health outcomes among youth. School psychologists may be well-positioned to incorporate physical activity within school-based mental health intervention service delivery. This study explores school psychologists’ perspectives of using physical activity as a mechanism to support the mental health of students. Twenty practicing school psychologists participated in semi-structured focus groups and shared their perspectives on facilitators and barriers of promoting physical activity in schools to enhance mental health outcomes. Analytically, this study employed a grounded theory approach to yield themes that provide insight into the intersection of school psychology and physical activity. Results suggest that when school and district leaders prioritize using physical activity to promote mental health, this can in turn foster the development of (a) structures to foster such initiatives, (b) data collection and data-based decision-making efforts, and, in turn (c) effective and targeted interventions. Implications for research and practice are discussed.

KEYWORDS

School psychology; mental health; physical activity; qualitative research

The mental health of youth stands as a critical public health concern. Research suggests that approximately 33% of youth are expected to meet criteria for a mental health diagnosis (Costello et al., 2003). Burgeoning research continues to highlight that physical activity can serve as a viable modality to support the mental health and social-emotional functioning of youth. Notably, youth who engage in physical activity have a lesser likelihood of developing symptoms of depression (e.g., Ahn & Fedewa, 2011; Annesi, 2005; Biddle et al., 2018; Kremer et al., 2014; Zahl et al., 2017), anxiety (Biddle et al., 2018), and psychological distress (Ahn & Fedewa, 2011).

Literature continues to illuminate several causal, mediating, and moderating associations among physical activity and mental health outcomes. Firstly, research suggests that exercise can serve as a coping skill that can distract people from negative thought processes (e.g., Craft & Perna, 2004; Stathopoulou et al., 2006). Janson and Rohleder (2017) suggest that distraction coping can foster decline in cortisol levels that can sustain up to one hour after a stressful situation. Literature also indicates the utility of physical activity in fostering self-efficacy (e.g., bringing forth meaningful experiences in which people feel they are achieving mastery; e.g., Craft & Perna, 2004). Key attributes of self-efficacy in physical activity involve cognitive appraisal (e.g., belief in ability to engage in a task), action (e.g., engaging in the task), power to choose physical activity in the face of barriers, and adjusting to changes in self-efficacy (Voskuil & Robbins, 2015; Zahl et al., 2017). Strong et al. (2005) underscore that the benefits of physical activity on self-concept may be mediated by the type of physical activity (i.e., aerobic physical activity mixed with strength or flexibility exercises) in addition to cognitive-behavioral interventions to foster physical activity engagement. Other scholars suggest that the causality between decreased depression risk and youth engagement in physical activity and sport (e.g., Kremer et al., 2014) could be mediated by healthy activity or social connectivity (e.g., Iannotti et al., 2009; Paluska & Schwenk, 2000).

The United States Office of Disease Prevention and Health Promotion Physical Activity Guidelines Advisory Committee (PAGC, 2018) recommends that youth between the ages of 6 to 17 engage in one hour of moderate to vigorous physical activity daily as a mechanism to foster multiple benefits including healthy
weight, cardiovascular strength, and cognitive and mental health benefits. However, under one quarter (22.6%) of youth ages 6 to 17 engage in one hour of daily physical activity (The Child and Adolescent Health Measurement Initiative, 2017–2018). Additionally, the frequency of physical activity within schools is further declining. Notably, data in the United States suggest that 3.6% of elementary schools, 2.4% of middle schools, and 4% of high schools provide daily physical education for all students (CDC, 2015). Data from 1.6 million students in 146 countries indicate that 81% of youth ages 11–17 were insufficiently active (Guthold et al., 2020). It is noteworthy that physical activity levels for males have decreased from years 2001–2016 for males, albeit males tend to engage in more physical activity than females.

**School psychology and physical activity**

Research and practice guidelines position school psychologists as key stakeholders in promoting physical activity for their students. The Professional Standards of The National Association of School Psychologists (NASP; 2020) underscore ten broad domains of practice, including (1) Data-Based Decision Making, (2) Consultation and Collaboration, (3) Academic Interventions and Instructional Support, (4) Mental and Behavioral Health Services and Interventions, (5) School-Wide Practices to Promote Learning, (6) Services to Promote Safe and Supportive Schools, (7) Family, School, and Community Collaboration, (8) Equitable Practices for Diverse Student Populations, (9) Research and Evidence-Based Practice, and (10) Legal, Ethical, and Professional Practice. Indeed, physical activity can permeate through these areas of practice. Further, school psychologists can inform related stakeholders (e.g., policy makers, parents) about the utility in physical movement, and in turn, foster a school climate that promotes activity (Savina et al., 2016).

Scholars have suggested that physical activity may serve as a viable intervention modality for school psychologists to incorporate into their practice, and further conceptualized the integration of physical activity within a multi-tiered system of support (MTSS; e.g., Fedewa et al., 2013). For example, within a universal level of intervention (tier 1), all students are provided up to one hour of daily physical activity through classroom movement breaks, recess, and physical education. Within a selective level of intervention (tier 2), students needing additional physical activity (for a host of reasons, including academic, mental health, and socio-economic issues) engage in before- or after-school programs and additional physical activity breaks that might be implemented during transition times. For a targeted level of intervention (tier 3), students may benefit from individualized instruction with a physical education teacher to foster cardiovascular or strength and resistance exercise. Alternatively, a student could use a stability ball or walk to a separate area of the classroom to obtain a quick session of physical activity. It is suggested that tier 3 supports are also infused in the home setting as well. This literature, though incredibly seminal for the field, did not underscore the specific systems that would substantiate such practices, data that could be used to track student progress, and decision rules to determine if a student warrants an increased level of intervention, and further, what types of interventions would be most appropriate.

Greenspan et al. (2019) systemically reviewed school-based physical activity interventions and pooled these studies into a MTSS framework to match the intervention with the level of student need. The authors delineated a host of movement interventions that have demonstrated effectiveness in supporting positive student outcomes including decreased anxiety, increased on-task behavior, and conflict resolution. However, the field has yet to explore in detail how school psychologists could have involvement in physical activity interventions for mental health, what their role could entail, and facilitators and barriers to implementation.

Implementation science research is regarded as the “scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services” (Eccles & Mittman, 2006, p. 1). Implementation science scholars assert that implementation is a multi-year process that requires carefully enacted steps to produce positive outcomes (e.g., Fixsen et al., 2005). These scholars denote stages of the intervention implementation process: exploration, installation, initial implementation, and full implementation. The first stage, exploration, refers to assessing needs, considering the match of the intervention with the target population, identifying facilitators and barriers (e.g., resources, personnel) that could promote or hinder implementation, and ensuring feasibility of the intervention. Installation refers to obtaining resources and preparing the organization at hand for the new intervention. In this stage, the focus is on identifying and ensuring drivers for implementation both on personnel and a systemic or organizational level, and on developing procedures pertaining to data systems, staff training, and policy. The third stage, initial implementation, involves rolling out an intervention while iteratively adjusting the drivers of implementation and navigating concerns of stakeholders. Lastly, full implementation requires that the intervention is rolled out...
with strong data systems and implementation drivers that foster desired effects and sustainability.

This study sought to develop an understanding of elementary level school psychologists’ belief systems and perspectives of implementation factors related to using physical activity within mental health interventions. Such an understanding adds to the knowledge base focused on the intersection between school psychological interventions and physical activity. The overarching research question was: *What are elementary level school psychologists’ perspectives of implementing physical activity to support students’ mental health?*

### Methodology

This study employed a grounded theory methodological approach (Corbin & Strauss, 2015). Grounded theory seeks to understand a concept or phenomena by systematically and iteratively reviewing data indicating experiences, perceptions, and beliefs. Through this process, higher-order and sub-categories are derived from data and shed light on a theory or theoretical framework (Corbin & Strauss, 2015). Grounded theory, given its ability to underscore a theory on a concept or concepts, is well-suited when exploring a content area with minimal research and can reveal rich data encompassed by participants’ perspectives (e.g., Corbin & Strauss, 2015).

A purposeful sample of elementary-level (kindergarten through fifth grade) school psychologists were recruited via e-mail and social media to participate in a focus group study. Inclusion criteria involved elementary school psychologists in the United States who serve students in grades k-5. Within recruitment materials, participants were informed about the scope of the study, were informed that they would receive an incentive upon completion of the study (i.e., a 35 USD Amazon gift card), and were provided with a link to a questionnaire which sought information about participant’s physical activity engagement, school demographics, and personal demographics.

### Questionnaire

Participants first responded to two questions: 1) “Were you a high school athlete or frequent participant in fitness activities?” and 2) “Were you a college athlete or frequent participant in fitness activities?” Following, participants engaged in the Brunel Lifestyle Physical Activity Questionnaire Planned Exercise Sub-Test (Karageorghis et al., 2005), which measures the frequency and intensity of planned physical activity engagement among participants (1 = no engagement or not relevant; 5 = high ranking of frequency or intensity).

Participants were then provided with a school demographics questionnaire, which asked about the grades housed in their school, type of location (i.e., rural, suburban, urban), percentage of students receiving free or reduced lunch, minutes per week of physical education, and minutes per week of recess. These data elucidated the general demographic make-up of the schools in which participants worked.

Participants further responded to a personal demographic questionnaire, which asked for their state of employment, racial and ethnic identification, gender identity, highest degree, and years working as a school psychologist within their current district and overall. Of note, the questions about gender and transgender identities were developed by the Human Rights Campaign (2015). The questions about racial and ethnic identity were developed by BrckaLorenz et al. (2014) and used within the National Survey of Student Engagement (e.g., [http://nse.indiana.edu/](http://nse.indiana.edu/)).

Eligible and consenting participants received an e-mail from the PI with an attached focus group consent form for their records, as well as a list of available times for focus groups. Prospective participants were also sent a hyperlink to a SignUp Genius (i.e., [www.signupgenius.com](http://www.signupgenius.com)) page that provided them with a list of focus groups they could sign up for.

### Sample

Twenty participants, who were mostly early-mid career Certificate of Advanced Graduate Study (CAGS) or specialist-level school psychologists (60%) from the United States, engaged in the focus groups. Participants identified as white and mostly female. Participants worked in primarily suburban schools where most students receive over 30 min of physical education weekly. Participants report that they engage in a moderate amount of planned physical activity. Specific demographic data are detailed in Tables 1–3.

### Focus groups

Participants engaged in online synchronous focus groups using Zoom Video Conferencing. The use of online focus groups was selected as a feasible and inexpensive method to collect data from participants located in various geographic locations (e.g., Kenny, 2005). Stewart and Williams (2005) underscored that “[focus groups] are distinguished by their explicit use of group interaction to produce data” (pg. 396). There was one individual interview and seven groups sessions (with
two or more participants). The inconsistency in numbers of participants per session was primarily due to nonattendance or scheduling concerns among participants. The use of several unique focus group sessions was intended to support data saturation by bringing forth perspectives from various school psychologists.

Each focus group session was audio-recorded with both the Zoom Video Conferencing audio-record feature and a back-up digital audio recorder. The PI (a fifth-year doctoral candidate in school psychology) facilitated the session and a research collaborator (A second-year doctoral student in school psychology) took notes and supported participants with technical difficulties through the private message feature. The PI followed a focus group protocol to ensure consistency of questions. The protocol included an introductory script to explain the process of focus groups and provided semi-structured open-ended questions in accordance with stages of implementation which include exploration, installation, initial implementation, full implementation (e.g., Bertram et al., 2015). A sample of protocol questions in accordance with implementation stages are outlined in Table 4. More specific follow-up questions were designed if participants struggled to answer questions.

During the focus group, participants were encouraged to answer questions “popcorn style,” or in a sporadic manner, providing responses in a non-ordered sequence. The PI and a research collaborator (hereby referred to as “research team”) engaged in independent notetaking across all focus groups. The research team noted technical issues, observations of the participants (e.g., most or least vocal, level of optimism, etc.), recurring points, possible burgeoning themes, and questions that required clarification or repeating. After each session, they both wrote a narrative report of their session reflections. They met after each focus group session to overview these notes, share perspectives, and debrief about the conversation. Identifying data (e.g., names, locations) were removed and the audio was transcribed using the Rev transcription services (e.g., http://www.Rev.com)

**Analysis**

All transcriptions were imported into NVivo 12 software for qualitative analysis. Focus group data were analyzed in three unique stages including open coding, axial coding, and selective coding (Corbin & Strauss, 2015). The research team met throughout the coding process to obtain consensus pertaining to their codes and subsequent themes. Throughout the analysis process, the research team developed a coding rules that would support a consistent structure to this process (e.g., determining code names for specific phrases, coding hypothetical vs realistic statements). If the research team could not come to consensus on a code, they would refer to the coding rules document. If their differences could not be reconciled, they would consult with an external reviewer (a faculty member in Special Education

| Table 1. Personal demographics. |
|----------------------------------|
| **Item**                         | **Sample** |
| - Gender                         | -          |
|   Female                         | 18         | 90 |
|   Male                           | 2          | 10 |
| Non-binary/third gender          | 0          | 0  |
| Prefer to self-describe:         | 0          | 0  |
| Prefer not to say Transgender    | 0          | 0  |
| Yes                              | 0          | 0  |
| No                               | 20         | 100|
| Race/Ethnicity                   | -          |    |
| American Indian or other Native American | 0 | 0  |
| Asian, Asian American, or Pacific Islander | 0 | 0  |
| Black or African American        | 0          | 0  |
| White (Non-Hispanic)             | 20         | 100|
| Mexican or Mexican American      | 0          | 0  |
| Puerto Rican                     | 0          | 0  |
| Other Hispanic or Latino         | 0          | 0  |
| Multiracial                      | 0          | 0  |
| Other                            | 0          | 0  |
| I prefer not to respond          | 0          | 0  |
| School Psychology Level          | 12         | 60 |
| Specialists Level                | 8          | 40 |
| Doctoral Level                   | -          |    |
with expertise in grounded theory) to facilitate a decision-making conversation while providing their expertise.

**Open coding**

In open coding, the research team observed and gained familiarity with the data and through line-by-line reading, assigned code names to support future aggregation of patterns. Following, they engaged in microanalysis, wherein brief memos were written about the codes derived. Memoing is intended to be detailed and self-reflective, while highlighting repetitive and specific words of interest, and noting emphases on particular words and understandings of concepts (Corbin & Strauss, 2015). The research team independently coded the first two transcripts and came together to develop consensus. Following, they took turns, with one coding the subsequent transcript while the other checked it, and they then met to establish agreement and consensus. As open-coding culminated, a robust codebook was formed. After all transcripts were coded, the research team re-read through each transcript to ensure the codes were updated and accurate.

**Axial coding**

While open coding allows for these elements of the theory to become derived, axial coding (Corbin & Strauss, 2015) is employed to systematically connect categories and sub-categories. In this process, the research team employed diagramming techniques (Corbin & Strauss, 2015) to visually depict relationships between concepts. In doing so, each researcher independently engaged in this process before coming together to reconcile differences and develop consensus.

**Selective coding**

In the third analytical component, selective coding, the research team distilled the theory into relatable components that were threaded together to illuminate the theory (Corbin & Strauss, 2015). Within this stage, researchers typically learn how categories are threaded through relationships, formulating a cohesive and comprehensive phenomenon. Both members of the research team met to determine the central theme and meaning that would culminate throughout the axial coding process. This process encompassed both independent work and collaboration between the research team members.

**Constant comparative process**

Throughout the coding process as data accumulated, the research team engaged in a constant comparative process (e.g., Corbin & Strauss, 2015) where codes and themes derived from transcripts were compared with

| **Table 2. Physical activity engagement.** | **Sample** |
|------------------------------------------|-----------|
| Demographic Item                        | n         | %         |
| High School Athlete/ Involvement in Fitness | 6      | 30        |
| No                                      | 14      | 70        |
| College Athlete/Involvement in Fitness  | 10      | 50        |
| No                                      | 10      | 50        |
| Brunel Lifestyle Physical Activity Questionnaire | M   | SD        |
| Planned Exercise Sub-Test (1 = no engagement or not relevant; 5 = high ranking of frequency or intensity) | 2.85 | .988 |
| How many times in a normal week do you engage in preplanned physical activity? | 4.15 | 1.387 |
| How long have you been engaging in pre planned physical activity at this weekly rate? | 4.35 | 1.040 |
| In general, what is the duration of each session of preplanned physical activity? | 3.45 | 1.146 |
| If you add together each session of preplanned physical activity that you engage in during a normal week, how much time would you estimate that you spend in total? | 4.45 | 1.050 |
| In the past, how long have you generally persisted with a preplanned physical activity program before giving up? | 3.20 | 1.005 |
| How vigorously do you engage in preplanned physical activity? | 4.83 | 3.7417 |
one another to inform a consistent culmination of themes.

**Trustworthiness**

As a measure to ensure trustworthiness (e.g., Corbin & Strauss, 2015), researchers employed strategies that included: 1) utilizing an external reviewer to ensure objectivity, 2) providing a rich, thick description of the themes, 3) describing discrepant information to a theme, 4) writing positionality statements, and 5) having ongoing positionality conversations to understand how their unique experiences could impact the data analysis process (Bourke, 2014; Creswell, 2014; Herr & Anderson, 2005).

**Positionality**

The PI of this study was a fifth-year candidate in the School Psychology doctoral program at the University of Massachusetts Amherst and conducted this current study for his dissertation. He identifies as a white cisgender male and as part of the LGBTQ+ community. He is an avid exerciser and promoter of cultivating safe, supportive, and socially just school climates that infuse wellness practices, including physical activity. He conducts research on a) using sport and physical activity as vehicles to foster positive mental health outcomes for youth populations and b) affirming school-based practices for LGBTQ+ youth.

The research collaborator on this study was a second-year student in the School Psychology doctoral program at the University of Massachusetts Amherst. She identifies as a multiracial-ethnic, cisgender female and as a member of the LGBTQ+ community. As an active individual, she supports the use of physical activity interventions as a method for improving youth mental health outcomes within school settings. Her research interests include cultivating socially just and culturally inclusive initiatives to support at-risk students in alternative school placements.

The research team members engaged in a meeting preceding focus group data collection and analysis. They discussed their worldviews, social identities, and where these facets intersected with the scope of the study. Both individuals underscored that they view physical activity

| Table 3. School demographics. | Sample |
|-----------------------------|--------|
| Item                        | n      | %     |
| U.S. Region                 |        |       |
| Midwestern                  | 2      | 10    |
| Northeastern                | 3      | 15    |
| Southern                    | 9      | 45    |
| Western                     | 6      | 30    |
| Grades                      |        |       |
| K-4                         | 2      | 10    |
| K-5                         | 15     | 75    |
| K-6                         | 3      | 15    |
| Setting                     |        |       |
| Rural                       | 6      | 30    |
| Suburban                    | 11     | 55    |
| Urban                       | 3      | 15    |
| Percent of students in school receiving free and reduced lunch |       |       |
| 0%–20%                      | 0      | 0     |
| 21%–40%                     | 2      | 10    |
| 41%–60%                     | 3      | 15    |
| 61%–79%                     | 2      | 10    |
| 80%–100%                    | 3      | 15    |
| Excluded due to uninterpretable data or no response | 10     | 50    |
| Recess Time                 |        |       |
| 0 mins–15 mins              | 2      | 10    |
| 16 mins–30 mins             | 13     | 65    |
| 31 mins–45 mins             | 2      | 10    |
| 46 mins–60 mins             | 2      | 10    |
| Excluded due to uninterpretable data or no response | 1      | 5     |
| Physical Education Time     |        |       |
| 0 mins–30 mins              | 2      | 10    |
| 31 mins–60 mins             | 6      | 30    |
| 61 mins–90 mins             | 5      | 25    |
| 91 mins–120 mins            | 4      | 20    |
| Excluded due to uninterpretable data or no response | 3      | 15    |
Table 4. Sample of focus group questions with corresponding implementation stages.

| Implementation Stage | Definition | Example focus group questions |
|----------------------|------------|--------------------------------|
| Exploration          | Assessing needs; Considering the match of the intervention with the target population, identifying facilitators and barriers (e.g., resources, personnel) that could promote or hinder implementation, and ensuring feasibility of the intervention | What are your beliefs of using physical activity to support youth mental health? Does using physical activity to support youth mental health resonate with you as a school psychologist? If so, why? If not, why not? |
| Installation         | Obtaining resources and preparing the organization at hand for the new intervention; Identifying and ensuring drivers for implementation, developing procedures pertaining to data systems, staff training, and policy | What would need to be in place for such an idea to be rolled out? |
| Initial Implementation| Implementing an intervention while iteratively adjusting the drivers of implementation and navigating concerns of stakeholders | What would it look like initially to implement this in a school? What would your role be in that? How do we know it is helping kids’ mental health? How do we keep it going? How do you know we are doing it well? |
| Full Implementation  | The intervention is implemented with strong data systems and implementation drivers that foster desired effects and sustainability | |

as a positive outlet for supporting youth mental health. They further discussed that other interventions (behavioral, social-emotional, and prescribed medication) could also foster positive outcomes, either in tandem with or in lieu of physical activity. The members of the research team also agreed that structural barriers could deter the effective implementation of physical activity, such as if physical activity-based interventions are quickly prescribed and lack follow-up, sustainment, and substantial data collection and analysis efforts.

Both team members identify as former youth athletes, and both currently engage in regular physical activity. One of the members associated school physical activity with feelings of vulnerability when proper support and structures were not in place. Notably, having supportive and diverse school stakeholders (i.e., physical education teachers) fostered more positive experiences for one of the research team members. The other member associated school physical activity settings with pervasive masculine stereotypes (e.g., aggression, dominance, and belittling others through showing anger), generating feelings of discomfort and subsequent avoidance of physical activity in school. As youths, both team members preferred to engage in physical activity and sports outside of the school context. Further, both researchers are committed to fostering school contexts that promote positive outcomes and acknowledge the social identities and needs of all youth.

Additionally, the team members affirmed that regardless of their own worldviews, experiences, and perspectives, they would be open to all perspectives presented during the focus groups and continuously engage in open and honest conversations and intrapersonal self-reflections to prevent their perspectives from influencing data. Both research team members have academic training in bias awareness and sensitivity and used this knowledge base to further protect against incorporating biases into analyses.

Results

The research team had benefitted from consultation with the external reviewer to ensure they viewed the data in an objective manner. They were able to navigate the coding process successfully and reconcile any disagreements through conversations. Following data saturation, and throughout the coding process, a theoretical model emerged which encompassed three broad themes that explain elementary-level school psychologists’ perspectives of implementing physical activity: 1) components, 2) data-based decision making in implementation, and 3) treatment. These three themes work in an ordered progression, and barriers within any stage can impede implementation. School priorities that are geared toward these efforts facilitate progression (see Figure 1). A description of the themes and sub-themes are highlighted below.

Theme #1: components

This theme highlights the building blocks or key factors that are needed to foster a structure, framework, or intervention encompassing mental health and physical activity. Components is broken up into two sub-themes: 1) systemic and 2) concrete.

Systemic sub-theme

The systemic sub-theme refers to components that are needed on a macro level to harness practices within the schools. For example, participants discussed that a systemic approach involves “zooming out” and considering the appropriate infrastructure for implementation.
systemic sub-theme involves 1) an interdisciplinary team approach, 2) developmental appropriateness, 3) inclusivity, and 4) whole-child perspective.

**Interdisciplinary team approach.** Participants indicated the necessity of a team of diverse stakeholders working together to plan and support the implementation of a physical activity within a mental health framework. Specifically, this would involve a team of invested stakeholders who focus their efforts on physical activity and mental health initiatives. These stakeholders would engage in check-in meetings throughout the school year to plan for physical activity and mental health interventions, discuss initiatives, review data, and make database adjustments if warranted. Participants indicated that the individual leading such an initiative should be respected and well-liked among the school community, while also willing to contribute beyond their actual role to support such an initiative. Participants also highlighted that the team would require an administrator to uphold power and clout and to infuse this work in the system and foster sustainment. This might also involve administrators holding responsibility for fidelity checks and navigation of the bureaucratic, logistical, and fiscal components.

Participants further indicated that school stakeholders could tap into their unique skill sets to contribute to this work. For example, physical education teachers may know nearly every student in the school while further upholding expertise in body mechanics. Physical therapists and occupational therapists were viewed as experts in body mechanics. Teachers were viewed as primary implementers of physical activity within their classrooms who could also communicate with their leadership team about what is working within the system. School counselors and school psychologists were positioned as stakeholders who provide mental health expertise, which is viewed a valuable component of a team-based approach. Participants positioned school psychologists as stakeholders who could analyze school-wide and individual data obtained from a physical activity and mental health program. A participant stated:

> Well I guess it would be looking at data to see if the intervention you’re putting in place is actually working … And we’re good data people. At least what I do in my school, we crunch the data, and we look to see what’s working and what’s not working.

School psychologists were further positioned as stakeholders who could engage in consultation and professional development initiatives with staff. Participants indicated that their expertise in sharing information and data with school stakeholders would be valuable in both promoting the research underpinnings of physical activity and mental health. For example, this could take shape as leading professional development times to highlight the explicit link between physical activity and mental health benefits. Bringing in research studies would be critical to substantiate these linkages.

**Developmental appropriateness.** Participants spoke of the concept of developmental appropriateness, or the necessity for physical activity to be enacted in such a way that meets the developmental needs of youth. Participants provided examples of teaching children specific language and key words to use to support calm their bodies. Foundationally, participants discussed the importance of students engaging in physical activity
with same-aged peers to foster a comfortable environment and support appropriate skill acquisition. A participant discussed that “keeping similar-age kids together makes life easier, because when you have five-year-olds playing at the same time as twelve-year-olds, they play very differently.” Participants also discussed older students serving as “ambassadors” to choose physical activities for the school community.

Inclusivity. Participants reported on the importance of physical activity as a universal intervention that would serve all students while keeping in mind some students might have proclivities to less structured physical activities, while others may have inclinations to more structured games. Thus, it is important to link physical activity to students’ likes and needs. Participants further indicated the importance of accommodating students with physical limitations, motor issues, and social-emotional needs to ensure they can achieve the benefits of physical activity. A participant stated:

I also think that exercise in schools could be a way to help kids, especially kids who might not be team sport players or kids who are not naturally athletic, help them find something they really like to do for their life, for a lifetime, that maybe traditional physical education wouldn’t expose them to.

Whole-child perspective. The whole-child perspective sub-theme positions physical activity as a factor that promotes overall health and well-being and is connected with other factors that promote child development (e.g., academic learning, nutrition). Participants discussed a well-rounded approach to physical activity. For example, some participants highlighted the importance of meeting the holistic health needs of students and underscored that physical activity should be linked to education and health domains, and not stand as a fragmented aspect of care. A participant stated that “you need to look at the whole child,” “[address] whole needs of a student instead of just those academic needs,” and reported “I see it all very connected to each other . . . the foods we eat, the activities we do.” A participant further reported:

For me it’s a primary belief. If you’re looking at a pyramid, that’s a foundational component. You have to be stimulated, oxygen has to be moving to learn, and just sitting down and sitting in a desk all day, to me, does not correlate very strongly with maximizing potential. To me, exercise and any kind of physical movement has to happen to really get the full benefit of school. I’m probably more on that extreme. I’d be for like three recesses a day, physical education every day, and less time, definitely, in a desk.

Participants also indicated multi-modal ways of teaching students about physical activity (e.g., teaching about physical activity in the classroom and subsequently engaging students in physical activity breaks).

Concrete sub-theme
The concrete sub-theme refers to the key practice components to foster implementation. Participants identified mechanisms that could be utilized in schools to support physical activity and mental health initiatives. Concrete components include 1) multi-tiered approach, 2) modalities, and 3) implementers.

Multi-tiered approach. Participants conceptualized physical activity within a multi-tiered service delivery model (e.g., Sugai & Horner, 2009). At a tier one level, participants conceptualized ways to link mental health promotion and social-emotional learning within the classroom setting. Ideas included engaging students in physical activity; teaching students about how exercise can impact their mental health; and allowing students to form their own teams and engage in experiences to foster cooperation skills.

Participants discussed the utility of movement breaks as a general tier one intervention. There was a general theme of infusing physical activity within the school day, such as exercise videos during class or engaging in more vigorous movement during transition times. Participants also indicated that programs and interventions with well-outlined procedures and guidelines could be helpful as a means to promote fidelity. Participants proposed that physical activity may be implemented at specific times of the day. (e.g., universal classroom-based physical activity before starting the day). A participant provided a hypothetical example:

I think if you’re being proactive, you could introduce it almost, say, schoolwide for five minutes a day right after the morning announcements. ‘This morning we’re going to work on this . . . 25 jumping jacks or something . . . and then you’re going to stretch up, stretch to the left, stretch to the right.’ You’re going to start there, so universal for your tier 1, but then it’s still a little proactive.

For tier two interventions, participants indicated methods such as morning yoga in substantially separate settings for students with emotional and behavioral concerns, a morning run-club for children with behavioral concerns, and a breakfast club with physical activity to support children with getting settled in for the day. Participants also discussed that tier two and tier three supports can
infuse physical activity within group and individual counseling.

Tier three supports involved crisis intervention to help students behaviorally regulate by taking a break and engaging in vigorous physical activity (e.g., jump rope, running). Further, participants discussed that Students on Individualized Education Programs (IEPs) and 504 plans may already have goals that can be effectively met through physical activity (e.g., taking effective breaks to regulate). A participant reflected upon a relevant case at their school:

... one of the things that we recommended was for his intervention he was receiving and instruction to be movement based, so he was learning to read by jumping to these words in the room. We worked to make his lessons be really movement based, but was helping him so much not only to be engaged, but to learn the material as well.

**Modalities.** Participants indicated the importance of having students choose activities and offering a diversity of activities to enhance students’ perceptions and engagement in physical activity and allow them to find an activity that they enjoy and want to continue with. Notably, some of the most frequently mentioned modalities involved walking, movement breaks, yoga, mindfulness, and running.

The data highlighted that walking serves as a distraction or mechanism to separate from a stressful situation. Walking was often connoted with allowing students to take breaks from stressful situations or to enhance therapeutic engagement. For example, walking was described as a way for students to “blow off steam” or take a break from a stressful situation. However, it was also described as an opportunity for school psychologists to walk with students to engage in problem-solving discussions and counseling.

Yoga was indicated as a unique modality that could be used to calm students who might be behaviorally dysregulated or at risk of becoming behaviorally dysregulated. Yoga and mindfulness collectively were perceived as calming (participants suggested yoga as a way to decompress), and as such, were indicated to counteract physical activities that might be more vigorous and energizing to students.

Participants also indicated running as a modality, though this was less descriptive than other modalities. Specifically, participants indicated that children need to “run around,” while it was also discussed that students could engage in a morning running club at school or incorporate running in-place into existing classroom-based physical activity. Other modalities that were deemed more traditional sports (e.g., basketball, baseball) were more likely to be discussed in the confines of physical education class, while more individual activities (e.g., walking, running, obstacle courses) were indicated as modalities that could support individual mental health needs.

**Implementers.** Participants largely positioned teachers and recess staff as implementers of school-based physical activity interventions at a tier one level, as they work with children in their classrooms and at recess on a regular basis and can incorporate physical activity in their respective routines. Of note, some participants mentioned community volunteers also helping with implementation of such initiatives. At a tier two or tier three level, school counselors and school psychologists were largely charged with implementation within their direct service work (e.g., incorporating physical activity in group counseling sessions). A participant reflected on the skillset of teachers in implementing physical activity within the classroom:

My general education teachers do a lot of brain breaks and kids are getting up. There are like a ton on YouTube that most of them utilize inside their classroom and kids even get assigned the job of if your class is looking a little tired, then you can say your class needs a brain break and everyone gets to stop and do one. So I think the system needs to include the general education teachers.

**Theme #2: data-based decision making**

The data-based decision-making theme includes three sub-themes: 1) progress monitoring, 2) measuring outcomes, and 3) fidelity. Overall, participants discussed using data to inform decisions about interventions, and thematically referenced steps of a problem-solving framework (e.g., Deno, 2002). The data-based decision-making theme was derived from a value that participants held around using data to inform practice. Participants spoke of the role of school psychologists in supporting the leadership team in using data to identify school- or student-based needs, measure the progress of an intervention, track formative progress, and assess outcomes. Participants relied on their skillsets in data-based decision-making and problem-solving to approach any domain of practice, rather than just physical activity implementation. A participant stated:

And just really working out the nuts and bolts of who’s going to do it, and what students are we going to put in place, and looking at the data, and what we’re going to measure, and just having that discussion just like you
would in a regular [Response to Intervention framework (RTI)] for reading, or a reading intervention, or a math intervention.

Participants emphasized asking behaviorally-rooted questions before considering an intervention (e.g., “what is our goal?,” “how are [we] hoping to improve?”). Specific strategies were considered as pinpoints throughout the day when students would benefit from physical activity. Participants discussed multiple ways of measuring behavior and referenced research studies pertaining to the link between physical activity and mental health, and further highlighted the utility of the research base to support implementation efforts in schools.

**Progress monitoring**

Participants discussed the importance of monitoring progress throughout implementation of an intervention to ensure that effective gains are made. They discussed utilizing existing behavior management systems to track such data. Participants discussed the importance of understanding the degree to which interventions benefit students, and recommended using data to make appropriate adjustments to interventions if necessary. A participant stated:

> There are going to be challenges when you implement anything, and you just kind of have to roll through those and make those minor adjustments so that things do work a little bit better, and to celebrate the successes that you do have and make sure you acknowledge those successes because we do tend to focus on things that aren’t going right. But yeah, it’s incredibly beneficial.

Participants further delineated the importance of using treatment integrity sheets and the value of formative data. Participants discussed the importance of incorporating teacher voice to relay concerns to leadership staff who can implement changes.

**Measuring outcomes**

Participants indicated measuring outcomes by using pre-post data collection efforts to determine effectiveness, and by collecting anecdotal data from teachers and students. Participants discussed measuring a host of outcomes using state-wide school climate inventories and rating scales. Participants also proposed reviewing increases in numbers of positive behavior incentives or rewards distributed. It was also highlighted that teachers could be evaluated based on the degree to which they incorporate wellness into their classrooms. Some participants underscored the importance of assessing progress on student’s IEP goals and considered how teachers can implement these goals through physical activity.

**Fidelity**

Participants accentuated the importance of measuring the fidelity of the intervention and indicated multiple methods to assess fidelity, such as engaging in a classroom observation with a supplemental checklist. Participants discussed that administrative leadership staff could conduct fidelity checks in the classroom, although their presence may be distracting. These fidelity checks could include an assessment of the frequency and implementation of physical activity to inform effective follow-up. Of note, participants also commented throughout the focus group that “you can’t do it wrong” and kids need to “go run.” These perspectives suggest a lack of structure to physical activity-based interventions and contradicts the aforementioned fidelity efforts.

**Theme #3: treatment**

Participants positioned physical activity as a form of treatment to support students in developing skills or remediating mental health symptoms. Specifically, three sub-themes emerged, including 1) treatment targets, 2) bi-directional student-teacher benefit, and 3) alternatives.

**Treatment targets**

Participants collectively mentioned use of physical activity to support a host of mental health concerns, specifically ADHD, depression, and anxiety. Participants highlighted that the act of taking a physical activity break can foster more quality instructional time. For example, children “getting their wiggles out” by taking a break could promote improved work completion. Participants stated that students need to “get out and be themselves” and enjoy time without structure, indicating that physical activity can “help kids do their best learning and feel safe and healthy and happy in the classrooms.” A participant stated:

> Yeah, if kids get their wiggles out and they go back to a classroom and they’re, potentially more engaged or completing more work, the teachers are going to see that, and that’s going to be some of the possible data that can be tracked, so I think that’s where you get some good classroom teacher buy-in.

Throughout conversations, participants identified mediating factors, such as physical activity for promotion of social connection, which could decrease depressive symptoms, and physical activity to provide a break, which could support regulation. For children presenting with mental health issues, school might be one of the only places where they can obtain physical activity. Participants indicated the importance of targeting
physical activity to students’ needs and preferences to successfully enhance outcomes.

**Bi-directional teacher-student benefit**
Participants discussed that intentional implementation of school-wide physical activity could benefit both students and teachers. For example, some suggested that teachers could serve as role models in sharing their physical activity endeavors (e.g., running races, etc.), and that teachers could be provided with physical activity breaks along with their students. Participants expressed that in a school-wide effort, adult stakeholders should be engaged to model desired behaviors. Participants also considered incentivizing adults for their physical activity (e.g., by having step competitions), which could enhance the social-emotional well-being of teachers and subsequently provide a more positive learning environment for students. A participant stated:

I think even it could have a component for teachers, maybe, just because I feel like everybody in the school’s stressed out, and it would help a lot of people to have some balance or some exercise in their day-to-day . . . because I know everybody wants to be healthier and happier.

**Alternatives**
Participants proposed that physical activity could be viewed as a more palatable alternative to traditional types of mental health treatment. For example, due to stigma surrounding therapy and medication, families might be more accepting of students learning physical activity skills. A participant stated:

I also think cross-culturally, exercise and movement is generally understood across a variety of cultures . . . exercise, a lot of times, is less threatening. We’re not saying anything about necessarily counseling or medication. It’s not something they have to sweep under the rug . . . . Exercise gives them a way to really enact something that could be beneficial without threatening their core beliefs and their systems. I think that’s part of it that cannot be overlooked, the power that can have.

Furthermore, participants indicated that physical activity could also serve to disguise social-emotional support for children by supporting them in engaging in creative ways to regulate their emotions.

**Barriers**
Participants shared a host of barriers that could hinder physical activity promotion. Notably, time stood out as a substantial barrier. For example, school psychologists discussed that their busy schedules could impede their ability to engage in an initiative, though if their personal interest was high enough, they would participate in such efforts. Relatedly, participants also cited lack of staff resources and being overextended as barriers. Administrators’ desire to guard instructional time emerged as another challenge. A participant stated:

. . . I know our administrators really guard instructional time. They’re very big on a child’s role in the classroom and making sure they’re getting the instructional time that they need to. And they kind of have to sign off to allow us to do [these] physical activities because the child is missing instructional time within their classroom. So just signing off and saying, “Okay this is worth doing to make sure they’re getting what they need.”

However, participants reported that administrators may have more leniency with physical activity embedded within the classroom setting rather than students leaving the classroom to participate in physical activity.

While physical education teachers were identified as key stakeholders, some participants mentioned that some physical education teachers have lacked patience with students presenting with behavioral health challenges, and thus, more training may be warranted for these stakeholders to support effective implementation efforts.

Participants further suggested that students might be more behaviorally dysregulated in the beginning of an intervention and it might be difficult for them to adjust to the new routine. With this said, teaching students about physiological changes in their body during physical activity, and subsequently, coaching them through the sensations would be a useful skill for them to obtain. Relatedly, if teachers do not buy in or foresee the initiative working, they may become less motivated overtime and sustainment of initiatives would be more likely to fall short. A participant underscored this point:

I mean, for us, if we have a way to show it’s working, it’s going to keep going. And that’s why a lot of our interventions fall off, because the teachers don’t perceive that it’s working . . . . It really just comes down to whether or not our teachers feel like it’s working, and if we can show the principals that it is working.

Notably, participants highlighted how the time of their professional training may impact how they interface with this work. For example, as the field has evolved, some later career school psychologists may feel they did not obtain a robust skillset to support mental health concerns as early and midcareer school psychologists.
As such, while these participants may seek out professional development opportunities, they feel they do not uphold a foundational knowledge-base. A participant stated, "But training wise, I think the training is going to very much depend on the school that you go to and their emphasis on mental health . . . So any training that I’ve had in mental health and in providing those services for my kiddos has all been professional development training" and further underscored “But when us, kind of more older and established school psychs are trying to get involved in those sorts of things, it’s tough because we don’t necessarily have kind of that theoretical background unless we’ve been doing a lot of work outside of school.”

Participants also discussed the cost of implementing a physical activity program, particularly of necessary supplies and resources. For example, a participant discussed how some school might not have adequate nor safe space for physical activity engagement:

Well, I’ve heard of schools in the cities that have a small, tiny patch of pavement, and that’s where the kids have their recess. It makes me really sad to think that kids in our country and all [over the world] might not have access to green space and outdoor space that’s safe and not have toxic fumes . . . Ideally, a school would have a lawn or a playground or some beautiful woods, some place that’s outside where a lot of this could take place.

Without both available funding and administrative approval, it would be difficult to roll out such an initiative. With this said, participants were willing to make use of minimal supplies. However, to diversify activities and meet the interests and needs of students, it is likely that ample resources will be needed in addition to a safe space for students to engage in physical activity.

When considering the relationships among these themes, barriers can impede the progression of components, data-based decision making, and treatment. Thus, participants suggest that schools engage in extensive pre-planning to consider and strategically address barriers that may hinder the intervention’s progress and implementation.

**Discussion**

The theoretical model that emerged from the data underscores the necessity of administrative priorities that support interventions that fuse physical activity and mental health. When school administrators, such as principals, prioritize and buy into incorporating physical activity within school-based mental health interventions, it can lead to the formation and effective sustainment of both systemic (e.g., interdisciplinary team approach, developmentally appropriate practice, inclusivity, a whole-child approach) and concrete (delivery of multi-tiered interventions, specific physical activity modalities, and implementers) components. Such components, in turn, facilitate comprehensive and consistent data collection efforts that can allow school psychologists to plan interventions. Following, such data efforts can promote treatment targets for students, teachers, and the school community. Of note, barriers (e.g., lack of priorities, fragmented structure, minimal data efforts) can impede effective implementation progress and hinder sustainable practices.

Participants indicated that physical activity can bring forth outcomes that converge with the literature, including, walking to foster distraction coping (e.g., Craft & Perna, 2004; Stathopoulou et al., 2006), yoga for calming and decreasing emotional dysregulation (Frank et al., 2014), movement breaks to increase on-task behavior (Lowden et al., 2001; Mahar et al., 2006), recess time as a mechanism to support students in developing problem-solving skills (London et al., 2015; Madsen et al., 2011; Mayfield et al., 2017), and engaging in physical activity generally to foster increased feelings of mastery and confidence (Craft & Perna, 2004; Voskuil & Robbins, 2015; Zahl et al., 2016).

Much of what participants indicated was in line with the conceptualization of the Comprehensive School Physical Activity Program (CSPAP; CDC, 2013) of the Whole School, Whole Community, Whole Child Model. For example, the CSPAP (CDC, 2013) specifies that physical activity is provided within schools for 60 minutes per day through a multi-component approach, including before- and after-school physical activity, quality physical education, and movement breaks throughout the day. However, the CSPAP positions physical education teachers as leaders of such schoolwide physical activity efforts. However, to provide a seamless service delivery that effectively uses data to drive decisions while also targeting specific mental health variables, school psychologists may be well-positioned to work alongside the physical education teacher in these efforts. The results of this study add to Fedewa et al.’s (2013) conceptualization physical activity embedded within a three-tiered model and provides increased data surrounding implementation of such a model, specific needs to target using physical activity interventions, and how stakeholders can effectively utilize their skill-sets within such initiatives. It is important to highlight that providing youth with physical activity could enhance their ability to regulate emotions (e.g., see Greenspan et al., 2019), which could in turn allow them to more effectively access therapeutic skills, thus potentially off-setting behavioral concerns.
School psychologists consider themselves key stakeholders in supporting schools in linking physical activity with mental health. Participants’ perspectives of their roles within this work are in line with recommendations from Greenspan et al. (2019), who suggest that school psychologists could consult and collaborate with teachers about physical activity, engage in progress monitoring of physical activity-based interventions, and implement physical activity within their service delivery.

While participants in the study were able to brainstorm specific ways that physical activity could be used as a modality, they often relied on their broad training in school psychology to guide their decision-making around data collection efforts. For example, participants often referenced using a problem-solving model to identify problems and link interventions accordingly (e.g., Deno, 2002), while also considering MTSS teams as a way to support physical activity efforts.

Participants were generally guided by strong theoretical heuristics that are essential to school psychology. This positions school psychologists as upholding the training or upholding willingness to engage in increased training to use sound problem solving and intervention frameworks to effectively link physical activity interventions to support mental health. Specifically, using a problem-solving model allows school psychologists to consider the magnitude of the target problem and generate effective solutions that target the problem area. Using MTSS allows school psychologists to deliver interventions in a population-based approach that takes into account the needs of all students. These important facets of school psychological service delivery lend themselves to the incorporation of physical activity to foster increased mental health outcomes.

**Implications for research**

This study offers rich implications for future research. Firstly, future related studies that underscore the intersections between physical activity and school-based mental health supports will add to this foundational research. While this study sheds light on school psychologists’ perspectives and conceptualization of physical activity embedded in mental health service delivery, it is underscored from the data that school priorities largely impact such interventions. Participants indicated that school administrators’ perceptions of physical activity were dependent upon the severity of the need and amount of class time a student may miss. An important next step will be to explore administrators’ perspectives of physical activity interventions across the tiers. Specifically, it will be critical to delineate common factors that are viewed as facilitators and barriers to physical activity interventions.

This study focused on elementary schools to consider the unique developmental needs of a particular population. Further, considering implementation of physical activity supports for younger children, offers increased opportunities for preventative supports. Future research should consider the utility of physical activity interventions for secondary schools. Understanding the unique needs and conceptualization of middle school and high school physical activity supports would offer an important continuum of care throughout schooling that generalizes to using physical activity as a daily mental health support throughout adulthood.

Of note, participants discussed the potential utility of incorporating physical activity within group counseling sessions for internalizing symptoms. There is a current dearth of literature on such an intervention; thus, future research may explore integrating physical activity within evidence-based therapy modalities.

Concepts of social justice were seldomly addressed by the participants in the study. As discussed, certain student populations, including students with physical disabilities (Goodwin & Watkinson, 2000) and sexual minority and gender diverse students (Greenspan et al., 2019; Kosciw et al., 2018), frequently experience discriminatory, hostile, and non-equitable physical activity environments. Further, dominant gender and racial discourses exist within the physical activity context (Azzarito & Solomon, 2005). Further, socio-economic resources can likely propel access to physical activity while financial limitations might deter access. These topics warrant further exploration. Future research should consider the school psychologist’s role in infusing social justice and equitable practice within school physical activity and health practices. Further, a more diverse participant sample would illuminate wider worldviews and allow researchers to consider how diverse roles intersect with this critical work. Future research should explore cultural adaptations of school-based physical activity. For example, Matsuba et al. (2020) adapted a social-emotional learning and mindfulness intervention for youth in Northern Uganda. The authors obtained both feasibility and outcome-based data. There is also a need for increased research exploring the benefits and challenges of conducting online focus groups.

**Implications for practice**

This study positions school psychologists as key stakeholders in implementing physical activity interventions
within schools to support the mental health of students. The data gleaned from this study illuminate that school psychologists perceive physical activity as an important vehicle to strengthen the social-emotional and mental health outcomes of youth. However, school psychologists would benefit from increased education to bridge their training in mental health and implementation science with physical activity. Specifically, school psychologists would benefit from increased training on the connections between physical activity engagement and mental health outcomes, and further, how physical activity can be delivered within existing intervention frameworks (e.g., MTSS).

To this end, school psychologists should consider cultural factors to ensure youth can effectively access relevant and meaningful physical activity. For example, As discussed above, Matsuba et al. (2020) adapted a social-emotional learning and mindfulness intervention for youth in Northern Uganda. Additionally, Whitley et al. (2016) highlighted that within the Kayamandi Township in South Africa, sport allowed athletes to live out their philosophy of ubuntu which relates to ways in which community members care for one another. Further, clinicians cross-culturally may hold varying perspectives on the utility of physical activity as an intervention for physical activity, as demonstrated by the heterogeneity in clinical practice guidelines for treating depression, where some treatment guidelines suggest using exercise as a front-line intervention for sub-clinical and mild to moderate depression, while other guidelines are less specific in their recommendations, or do not mention physical activity in their guidelines (e.g., see Hess et al., 2019).

To this end, while it is important for school psychologists to consider matching appropriate physical activity interventions to effectively meet student’s needs, it is also important that they consider students’ interests to ensure they will be engaged and successful in physical activity. For example, some students may prefer individual physical activity (e.g., walking around the track listening to music), while other may prefer group activities.

School psychology graduate programs would benefit from focusing on the utility of physical activity in coursework, research, and program-wide learning activities. Indeed, collaborating with physical education and kinesiology departments at the university level could enhance school psychology research and training to more deeply consider intersections between physical activity and mental health. This effort could also support physical education teacher in obtaining increased understandings of child mental health and the role of the school psychologist. Such collaborations at the graduate training level could further bridge increased future professional collaborations between school psychologists and physical education teachers, which would serve to strengthen efforts to integrate mental health interventions and physical activity.

This study also highlights that school psychologists would benefit from increased resources pertaining to physical activity interventions. Indeed, there is a growing literature base on physical activity interventions (e.g., CDC, 2010; Greenspan et al., 2019; PAGC, 2018). As such, it is important that school psychology advocacy organizations such as NASP, American Psychological Association (APA) Division 16, and The International School Psychology Association (ISPA) disseminate empirically supported resources to link this research into practice materials. Further, this is a promising area of research for health and wellness focused researchers to explore.

School Psychologists understand the importance of physical activity to support mental health outcomes of youth, and many uphold the motivation to support such efforts. With this said, administrative priorities are upheld as the primary gatekeeper to including a continuum of physical activity interventions within schools. School psychologists may consider consulting with administrators about the burgeoning research base linking physical activity and mental health. Subsequently, school psychologists may consider using their skills in consultation and implementation as they work with a multi-disciplinary team of committed stakeholders to build readiness and capacity and support the implementation of physical activity within school to promote mental health outcomes of school community members.

Limitations

This study presents notable limitations. In grounded theory, researchers often engage in theoretical sampling to continue to collect data from other participants to make increased meaning of the concept. Given much of what participants indicated was hypothetical, it could have added further rigor to extend the sample beyond school psychologists. For example, there was much discussion about the impact of administrator buy-in, decision-making power, and priorities. In theoretical sampling (e.g., Corbin & Strauss, 2015), the researcher would then interview administrators to gain a greater understanding of their perspectives to answer lingering questions. As another example, participants discussed movement breaks as a modality. As that theme became saturated, the researcher could have explored additional detail on types of movement breaks that would be most feasible.
Another notable limitation includes the homogeneity of the sample. All participants in the study identified as White, Non-Hispanic, cisgender, and mostly (90%) female. According to the 2015 NASP membership survey (Walcott & Hyson, 2018), the racial make-up of school psychologists was 86.3% White, 5.5% Black or African American, 2.9% Asian, and 4.0% other or multiracial. Also, 84.2% were female and 15.3% were male. Thus, the voices of perspectives of diverse groups were not represented in this study. Relatedly, questions were not centered around diversity issues within physical activity. Further, while authors of this study sought out to recruit a sample of school psychologists in the United States, this presents a limited perspective that may not extend outside of the United States.

This study could further present selection bias (e.g., Frey, 2018). It is likely that school psychologists who engage in a study in this topic area have a personal interest in physical activity or health promotion. This is indicated by the above average scores on the Brunel Lifestyle Physical Activity Questionnaire (Karageorghis et al., 2005) as well as participants reporting that they were athletes or fitness participants in high school or college (70% and 50%, respectively). This suggests that this current study may have included participants that are generally more enthusiastic about fitness and physical activity which could have skewed the data in a more positive direction.

Further, as the focus group leader was also the PI of this study, it is possible that this bias may have impacted results. Participants may have answered questions in an overly positive manner to appease the PI. To this point, social desirability (e.g., Lavrakas, 2008) could have played a role in the data as participants may have reflected on the positives of physical activity to be perceived positively by themselves, the other participants, and the researcher.

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Data availability statement

Participants of this study did not agree for the full dataset to be shared publicly, and thus, the dataset and transcripts are not available for public review.

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