

A scoping review critically examining research connecting social and emotional learning with three model-based practices in physical education: Have we been doing this all along?

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Abstract

The purpose of this scoping review is to critically examine previous research that connects three selected model-based practices (MBPs) to social and emotional learning (SEL) outcomes in K-12 physical education (PE) settings to inform a future research agenda for the field. A methodological framework involving the processes of inductive analysis and constant comparison was followed. Sixty-three studies (teaching personal and social responsibility = 26; cooperative learning = 24; and outdoor and/or adventure education = 13) across 14 countries adopting qualitative (26), quantitative (23), and mixed methods (14) in elementary (17), middle (27), and high school (19) settings presented evidence connecting these three MBPs explicitly, but more often implicitly, with SEL outcomes. While it is possible to say SEL skills and outcomes were observed, it would be more appropriate to suggest that there is evidence of only some key skills and elements of SEL outcomes occurring. Similar to general education, we do not know as much about if and how these three MBPs

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deliver such outcomes comprehensively. The educational and political rhetoric surrounding SEL is not matched by a body of empirical research that dedicates itself solely to investigating SEL in PE using a contemporary theory, framework, and assessment. Aligning future research involving these three MBPs and other pedagogical approaches with a suitable framework and theory involving teachers and students can advance future research on SEL in PE and is necessary in order to develop a common language and understanding within the field.

Keywords

Social and emotional learning, personal and social development, model-based practice, K-12 school settings, physical education

Introduction

A substantial body of educational theory, research, and practice in the area of social and emotional learning (SEL) has gained great attention from educators and policy makers in recent years in many different countries (Humphrey, 2013; Jones and Doolittle, 2017; Martin et al., 2017). So much so, that SEL is currently one of the most prevalent buzz phrases in education (Bartlett, 2019). Broadly speaking, SEL refers to “the process through which individuals learn and apply a set of social, emotional, behavioral, and character skills required to succeed in schooling, the workplace, relationships, and citizenship” (Jones et al., 2017: 12). These skills primarily involve developing social and interpersonal skills, cognitive regulation, emotional processes, character, and mindset (Jones and Doolittle, 2017). Demonstrating these types of skills is often recognized implicitly as occurring under broad outcomes such as the ability to demonstrate self-management, self-awareness, social awareness, relationship skills, and responsible decision-making (CASEL, 2015). However, explicitly speaking, these outcomes can be broken down into several elements. For example, demonstrating social awareness involves perspective-taking, empathy, appreciating diversity and respect for others (CASEL, 2015). Several meta-analyses in the last decade support the implementation of SEL programs using evidence-based interventions to develop skills and promote positive outcomes in academic growth, behavior, and youth development in general education (Corcoran et al., 2018; Durlak et al., 2011; Kopershock et al., 2016; Taylor et al., 2017). While findings appear promising, they have also been critiqued, in part due to a lack of conceptual and definitional clarity within the field and a lack of research focusing on differential effectiveness (i.e. what works, for whom it works, and under what conditions) (Jones et al., 2017). Subsequently, Wigelsworth et al. (2016: 368) have argued rather than questioning “does SEL work?” we should instead question “how does SEL work (or, why does it fail?)?” To do so, we must present and critique how SEL has been researched and implemented within different subjects. In particular, physical education (PE) is one such subject that is being increasingly tied to the SEL education phenomenon.

PE has been presented as a subject where students and teachers can develop emotional well-being and build positive socio-emotional experiences (Gagnon, 2016; Lu and Buchanan, 2014). Indeed, as our title indicates, many in the field would assert that *we have been doing this all along*. However, in order to affirm this claim, there is a need to explore how SEL has been implemented in the teaching of PE. In particular, model-based practices (MBPs) have been posited as fundamental tools to help students accomplish SEL outcomes (Jacobs and Wright, 2014). Yet, to date there has

been no critical review of evidence pertaining explicitly to MBPs' ability to develop SEL in PE. The purpose of this scoping review is to present and critically examine previous research that connects three selected MBPs (*teaching personal and social responsibility* [TPSR] [Hellison, 2011]; *cooperative learning* [CL] [Dyson and Casey, 2012]; and *outdoor and/or adventure education* [OAE] [Sutherland and Legge, 2016]) to SEL outcomes in K-12 PE settings in order to inform a future research agenda for the field.

Social and emotional learning in physical education

PE has long been posited as presenting students with learning intentions that help them “recognize and manage their emotions, establish healthy relationships, set positive goals, meet personal and social needs, make responsible decisions, and solve problems” (Ciotto and Gagnon, 2018: 32). Social and affective learning outcomes when combined together help to develop SEL as recognized and important elements of a comprehensive PE program (Dyson, 2014; Jacobs and Wright, 2014; Richards et al., 2019). This is demonstrated, for example, by SHAPE America National Standards four and five, which call for the physically literate student to exhibit “responsible personal and social behavior that respects self and others” and recognize “the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction” respectively (SHAPE America, 2014: 1). Researchers agree that MBP has the potential to develop physical, cognitive, social, and affective outcomes to meet these standards by equipping teachers with blueprints for organizing teaching, learning, and content material (Casey, 2014; Kirk, 2013; Lund and Tannehill, 2014). However, the existing lack of definition as to what constitutes affective learning in PE has been stressed by scholars in the field (Bailey et al., 2009; Kirk, 2012; Pope, 2005). To date there has been no review of the literature dedicated to the explicit connection of SEL and PE. Instead, empirically observed skills and outcomes in K-12 PE settings have traditionally fallen under the broad banner of “personal and social development” (Hardman et al., 2009). Opstoel et al.'s (2020: 13) recent review into the last decade of published literature pertaining to K-12 students' personal and social development within the context of PE and sports reported “a positive relationship between youngsters' participation in PE or sports and a range of personal and social skills.” They identified 11 associated variables that have historically appeared in the PE and sport literature that align with national standards and could also be considered as SEL skills and outcomes: work ethic; control and management; goal-setting; decision-making; problem-solving; responsibility; leadership; cooperation; meeting people and making friends; communication; and prosocial behavior. However, they also observed that during this period, only 26 studies focused on personal and social development *through* PE, with many lacking information regarding program characteristics and fidelity. This suggests a strong need to develop this area of research. This comes as no revelation, as SEL policies can be challenging and neglected as schools and teachers struggle to effectively implement practices promoting SEL outcomes within their curricula (Gagnon, 2016). Furthermore, the pressure of high stakes testing and the demands of meeting curricular outcomes inhibit the extent to which teachers and instructors implement SEL (Gordon et al., 2016). Subsequently, recognizing *what* researchers and teachers are researching and *how* they are implementing and studying SEL in PE lacks empirically based research, universal agreement, and recognized approaches. Against this backdrop, examining the connection between TPSR, CL, OAE, and SEL in PE is one approach to further understand what is currently known about SEL in PE settings.

Model-based practices and social and emotional learning

Casey (2016: 55) defines MBP as “a mechanism or pedagogical approach through which to move away from privileging PE subject matter (i.e. curriculum) or the teacher (i.e. instructional) and instead aligns outcomes with students’ needs and the teaching/instructional style.” Research involving the implementation of MBP has empirically affirmed that PE “has the potential to contribute to the achievement of a range of educationally beneficial outcomes for students, across a range of domains” (Kirk, 2013: 978), making it more suitable to accomplish SEL outcomes in comparison to traditionally embedded approaches, such as multi-activities. However, in order for this to occur, MBP must be well-articulated and aligned across curricular and instructional levels and implemented with fidelity (Hastie and Casey, 2014; Landi et al., 2016). Research on MBP has tended to focus on a specific model promoting a well-defined set of learning outcomes consistent with its design (Casey and MacPhail, 2018). To date, there has been little explicit empirical examination of the relationship between SEL and the use of validated instructional models (Gordon et al., 2016). Only one model, sport education (SE) (Siedentop et al., 2004), has been empirically reviewed in this regard. A longstanding body of work has been conducted on SE since the 1990s (Evangelio et al., 2018; Hastie et al., 2011; Hastie and Wallhead, 2016; Wallhead and O’ Sullivan, 2005). Bessa et al.’s (2019: 827) comprehensive review of the research on SE studies that have examined the development of students’ personal and social skills concluded from their perspective that the model has shown “unequivocal results” of the impact of SE on students’ personal and social development, predominantly in PE settings. Similar to Opstoel et al. (2020), they observed the following personal and social variables as outcomes that have been observed in 51 SE studies, which could also be considered as SEL skills and outcomes: responsibility; affiliation and ownership; inclusion; peer support and equity; teamwork, cooperation, and compliance; autonomy; empathy and friendship; fair-play; empowerment, problem-solving and decision-making; leadership; trust and confidence; self-determination; and assertiveness (Bessa et al., 2019). They also cited the need to examine model fidelity in future studies to provide more concrete findings.

Having already established a connection between SE and SEL, this scoping review of the literature purposefully focuses on three additional MBPs (TPSR, CL, and OAE) that have been characterized as incorporating and accomplishing SEL outcomes. We do so as a starting point to further inform our understanding of research findings involving these three MBPs, which fall under SEL skills and outcomes. In addition, understanding how these three MBPs have been researched and the way findings have been presented and described can help inform researchers and practitioners as to how other MBP and pedagogical approaches have potentially researched, identified, and presented SEL outcomes in a similar manner. Doing so can help inform a future research agenda for the field in relation to SEL. A number of reviews have been conducted on these models individually as well as in hybridized forms in order to fit existing school structures, curricular intentions, and research purposes (for TPSR, see Pozo et al., 2018; for CL, see Bores-García et al., 2020; Casey and Goodyear, 2015; for OAE, see Lee and Zhang, 2019; Sutherland and Legge, 2016; and, for hybrids, see González-Villora et al., 2019). However, not all of these reviews focused specifically on PE K-12 school settings, nor have they gathered data from students. Considering this, further research is warranted into the extent to which, if at all, recognized SEL outcomes have been accomplished historically by these three MBPs. This scoping review is the first to address this by adopting a critical perspective grounded in interpretivism and social constructivism.

Critical perspective

In selecting MBPs to review, we adopt Kirk's (2013: 973) assertion that MBP "may offer a future for PE that is well grounded in various philosophical arguments and the means to facilitate a wide range of diverse individual and social educational goods." At the same time, alongside SEL, we acknowledge the following: (a) we need to do more to understand MBPs; and (b) there should be multiple ways of "thinking and doing" PE and we acknowledge that excellent pedagogical practices do occur outside of MBP (Casey, 2016: 54–56). Coming from an interpretivist perspective (Pope, 2006), we seek meaning from SEL-orientated MBP literature with a frame of reference grounded in school-based contexts. From a social constructivist perspective, we will frame our review within the naturalistic setting of the school context, positioning our work with scholars such as Azzarito (2016), Azzarito and Ennis (2003), and Rovegno and Dolly (2006). Vadeboncoeur and Collie (2013) argue that social, cognitive, and emotional ideals of learning must be linked with social practices in schools and across school environments, and children and teachers must be supported as they establish the relationships that contribute to learning experiences. Yet, from a critical perspective, global directions are leading schooling further away from its democratic responsibility of developing Dewey's (1916) notion of *active and engaged citizens* (Baroutsis et al., 2016). This is compounded by a tendency in outcome research to treat young people as if they are "passive objects who are acted on by the adult world" (Ben-Arieh, 2008: 7). Solely examining the relationship between the effectiveness of teacher implementation of model-based interventions and SEL outcomes does not always ensure that students themselves are effectively acquiring them (Wright and Irwin, 2018). It is necessary to position students, their interests, and their growth at the center of educational and curricular experiences (Howley and Tannehill, 2014). In conducting this review, we aligned with the sentiment of Quennerstedt (2019) in positing that students should not be positioned as *not-yets*, or as *in-need*, and that their views, needs, and perspectives should not be constrained or neglected, but instead are necessary to inform our thinking and understanding of SEL, MBP, and PE.

Methodology of review

The purpose of this paper is to present and critically examine previous research that connects three selected MBPs (TPSR, CL, and OAE) to SEL outcomes in K-12 PE settings (otherwise known as primary and secondary schools) in order to inform a future research agenda for the field. When initially considering how to explore the connection between SEL and PE, we were faced with a number of methodological dilemmas. Due to the recent growth of interest in SEL in PE, we acknowledged that it was limiting to confine a comprehensive review in PE to explicitly identified SEL studies, as much of the work that could be considered SEL has not used this term. On the other hand, given the lack of conceptual and definitional clarity surrounding SEL and the potential breadth and depth of the scholarly work that has been done so far, attempting to comprehensively include historical work from the field considered as SEL through a systematic review would be a sizeable and protracted undertaking. In addition, we felt that limiting ourselves solely to literature that has emerged in the last decade, similar to Opstoel et al. (2020), meant omitting longstanding work of researchers in the field who have pursued greater understanding and development of students' social and affective learning in PE, which we now recognize as SEL. As the speed and quantity of PE research dissemination continues to grow, scoping reviews have emerged as an alternative to systematic reviews to summarize and disseminate research findings (Killian et al.,

2019; Levac et al., 2010; Sperka and Enright, 2018). Our review followed Arksey and O'Malley's (2005) five-step methodological framework to examine the extent, range, and nature of research activity focusing on these three selected MBPs, SEL, and PE in K-12 settings. The five steps involved in this process are outlined below.

1. *Identify the research question:* How has empirical research of TSPR, CL, and OAE approached and presented connections with SEL outcomes in K-12 PE settings?
2. *Identify the relevant studies:* Studies were sourced and chosen by initially searching *EBSCO*, the *Physical Education Index*, *Sport DISCUS*, *ERIC*, and *Proquest* databases using the main search terms "social and emotional learning" and "physical education." These databases were chosen as they are recognized as including peer-reviewed articles on PE published in journals with appropriate citation reports and impact factors. Additional searches were completed using the main search term combined with sub-classifications such as *MBP*, *TPSR*, *CL*, *OAE*, *adventure based learning*, *outdoor education*, *project adventure*, *affective learning*, *social skills*, *social learning*, *emotional learning*, and *personal and social development*. The primary search returns were then analyzed for suitability. Additional peer-reviewed articles were inspected through citations and references found in the primary search returns. In addition, we contacted and spoke to leading authors with expert knowledge and experience of each MBP to comment on identified studies and possible omissions. More specifically, three comprehensive searches were carried out on the major databases over 15 months from September 2018 to December 2019.
3. *Study selection:* The inclusion criteria for this review required English language peer-reviewed, empirical research articles involving quantitative, qualitative, or mixed methods student databases in on-site K-12 elementary (ages 5–10), middle (ages 11–13), and high school (ages 14–18) PE settings. PE settings needed to be clearly described, part of the school's regular class timetable, and scheduled during school hours, but could also include off-site settings within this. Studies exceeding the age range were not included. Studies where education levels were described differently (e.g. primary and secondary levels) were classified using the above K-12 age groupings. In line with our critical perspective, and in order to present more concrete findings of student learning, we decided that only studies including methodologies that involved the consented gathering of student data through direct collection and non-participant observation of students would be included. Studies involving hybrid models were excluded given that each MBP has elements that cannot be compromised if we are to describe a study within PE as incorporating each model (Hastie and Casey, 2014). Exclusions were also made if articles did not appropriately outline the intervention or discuss the methods of analysis for data gathered. This resulted in the inclusion of 63 articles.
4. *Charting the data:* Summaries of each study were categorized firstly into their respective model and then alphabetically by author with information on their purpose, location, participants, methods, duration, and findings. Studies were also charted by model, location, school level, participants, methods, and duration (see Table 1).
5. *Collating, summarizing, and reporting results:* The process of inductive analysis and constant comparison was followed (Denzin and Lincoln, 2011; Lincoln and Guba, 1985). Each of the 63 studies was carefully read and critiqued by at least two of the authors: firstly, in terms of being in an appropriate school setting, providing a clear explanation of how the methodology involved student data and a clear duration length;

Table 1. Summary chart of included articles.

Model	TPSR	CL	OAE	Total
Articles	26	24	13	63
Countries	Japan (1) New Zealand (1) Portugal (1) Serbia (1) South Korea (2) Spain (11) Turkey (1) UK (1) USA (7)	Canada (3) Finland (1) France (3) Greece (1) New Zealand (1) Spain (3) Sweden (1) UK (7) USA (4)	Canada (3) New Zealand (1) Spain (2) USA (7)	Canada (6) Serbia (1) Finland (1) South Korea (2) France (3) Spain (16) Greece (1) Sweden (1) Japan (1) Turkey (1) New Zealand (3) UK (8) Portugal (1) USA (18)
School level				
K-elementary	6	7	4	17
Middle school	12	10	5	27
High school	8	7	4	19
Participants				
1–30	9	3	4	16
31–50	4	7	1	12
51–100	5	8	3	16
101–200	7	4	2	13
200+	1	2	3	6
Methods				
Qualitative	9	10	7	26
Quantitative	10	7	6	23
Mixed methods	7	7	0	14
Duration (weeks)				
1–6	3	5	5	13
7–12	10	11	1	22
13–24	3	5	2	10
25–52	10	2	5	17
53+	0	1	0	1

TPSR: teaching personal and social responsibility; CL: cooperative learning; OAE: outdoor and/or adventure education.

and secondly, that their findings presented skills and outcomes related to the development of skills promoting social/interpersonal, cognitive regulation, emotional processes, character, and mindset and recognized SEL outcomes (CASEL, 2015; Jones et al., 2017). Studies were then grouped and individual study findings were synthesized in order to present overall findings for each model in relation to SEL, beginning with the presentation of broad SEL outcomes and then identifying more explicit ones. For example, learning and demonstrating social awareness in working with others was deemed by us as a broad SEL outcome; learning to do so while demonstrating empathy, respect, the ability to take other students' perspectives, and an appreciation for diversity was considered more explicit. These categorizations were discussed and interrogated until all three authors reached consensus on the findings that broadly demonstrated SEL outcomes, and those that did so more specifically.

Findings

Findings from the 63 studies reviewed presented approaches and evidence that connected TPSR, CL, and OAE explicitly, but more often implicitly, with SEL outcomes in K-12 PE settings. The full reference list of the included studies, as well as a master table detailing methods and findings, have been added as online supplementary files. To increase the readability of the findings section, the reference numbers in online supplementary Table 2 will be used as reference citations in square brackets in the findings text. In online supplementary Table 3, further information for each study's methods and findings is provided. 63 studies were identified (TPSR = 26; CL = 24; and OAE = 13) across 14 countries, which adopted qualitative (26), quantitative (23), and mixed methods (14) in K-12 elementary (17), middle school (27), and high school (19) PE settings. The durations of programs ranged in weeks from 1 to 6 (13), 7 to 12 (22), 13 to 24 (10), 25 and 52 (17), and 53+ (1). TPSR, CL, and OAE were successful in facilitating and promoting student attainment in what Jones et al. (2017) would regard as SEL outcomes that manifested themselves in the studies in different forms. The findings with respect to each model and their connections to SEL are presented below before being discussed collectively. For each model, we start with what we see to be broad implicit references aligning with SEL before presenting studies of a more explicit nature that demonstrate the connection between SEL and these three MBPs in PE.

Teaching personal and social responsibility

Twenty-six studies from nine countries repeatedly reflected terminology that aligned TPSR with SEL, demonstrating the model's ability to develop students' SEL. In particular, student outcomes for self-control, accountability, responsibility for themselves and for others, and conflict resolution were consistently observed [Studies 4, 5, 17, 25, 26, 28, 40, 43, 45, 47]. TPSR has been found to foster a positive learning environment that influenced behavior in PE and led to US high school students being able to make choices, express opinions, and evaluate themselves [Study 61]. The subsequent growth of empirical evidence in the last few years continues to underline how the TPSR model facilitates opportunities for students to take on responsibility through leadership roles to accomplish TPSR- and SEL-related outcomes [Studies 10, 31, 41, 46, 48, 50, 51, 56, 57].

The more affective elements of SEL outcomes were highlighted in a number of studies. A TPSR intervention aimed at enhancing prosocial values and behavior demonstrated the model's potential to positively influence opinions and behaviors related to fair-play in Spanish high school PE classes, resulting in heightened SEL-related outcomes such as self-control, self-awareness and empathy – “being aware of the consequences of one's actions, and an interest in understanding the reasons why one does things” [Study 14: 209]. TPSR goals effectively delivered, received, and enacted by students have led to the following described outcomes: respect for the rights and feelings of others; self-motivation; self-direction; and caring [Study 62]. One particular study of an implemented TPSR-based physical activity program within a modified PE class for at-risk US high school students observed that students demonstrated, understood, and developed value for the goals of respect, effort, goal-setting, and leadership skills, with some able to meaningfully connect TPSR goals to their possible futures beyond school [Study 59]. Informed by the theory of possible selves, the authors found that students more easily expressed hoped-for-selves and identifying feared-selves was conceptually more challenging, demonstrating a growing development of self-awareness and self-management. Recent work continues to confirm that students can evaluate their own personal and social responsibility more positively, and have higher self-evaluations of social

responsibility, including self-control, respect for other students and teachers, kind treatment of others, encouraging other students, and helping others [Study 8].

With regard to explicit SEL skills and outcomes identified, research involving US middle school students has observed that TPSR can develop relationship skills with adults and peers and “forge strong affective bonds with their friends” [Study 60: 238], resulting in “fewer verbal put downs, and higher levels of cooperation and team work” [Study 60: 244]. Reflecting the interest of scholars in empirically annexing SEL and TPSR in PE research, a recent quantitative study explicitly examined the relationship between PE, other curricular subjects, SEL, and TPSR in Spanish elementary students [Study 27]. Authors noted that teacher behavior and strategies that involved students modeling respect, fostering social interaction, leadership, giving choices and voices, roles in assessment, and transfer correlated with students’ demonstration of responsible SEL outcomes – leading to observations of caring 4, self-direction, and self-control amongst students [Study 27]. They suggested TPSR may provide an effective model to promote SEL not just in PE, but across school settings, particularly in relation to teaching students responsible decision-making. These recent findings, in particular, add empirical evidence of the synergy between TPSR- and SEL-related outcomes.

Cooperative learning

CL returned 24 studies from nine countries primarily showing evidence of outcomes related to social learning, such as improvements in social interactions and positive interdependence at all school levels [Studies 11, 19, 20, 22, 23, 37, 38, 39, 58]. In one particular study, social interaction was overlooked by the adult observers when gathering data, but was confirmed through student data [Study 12]. The nature of CL allowed social interaction to assist with the completion of curricular goals rather than impeding elementary student learning in a US setting [Study 21]. Given CL’s deliberate focus on the development of interpersonal skills, evidence of social learning also occurred when either the effect of CL on academic learning, motor skill, or physical activity was the main or joint focus of particular studies [Studies 6, 11, 15]. In a new departure for CL and MBP, the benefit of technology to support middle school aged UK students’ social learning through CL has also been demonstrated [Study 7].

Many studies observed SEL outcomes regarding social awareness, most notably students demonstrating care, concern, helping, empathy, and inclusion, which fall under the broader understanding of SEL outcomes. Through CL, it was shown to be possible to develop helping behaviors [Studies 13, 49], tolerance, empathy, and compassion [Study 63]. CL is also effective in developing social awareness and relationship skills amongst mainstream students and students with moderate/special educational needs amongst elementary and middle school ages in France, Spain, and Sweden, where changes in students’ interactions and acceptance of each other were observed alongside prosocial behavior, which promoted inclusion [Studies 1, 2, 9, 44]. Notably, a recent study involving CL in a Spanish high school has demonstrated how social learning facilitated shifts in social relations relating to gendered attitudes, sexism, and equality, with girls reporting feeling more valued and included, a number of boys exhibiting more positive attitudes toward girls, and calls from both for more CL approaches to teaching PE content more inclusively in the future [Study 52].

Although there were some suggestions that affective learning outcomes were accomplished in PE through CL, these were somewhat tentative and open to interpretation and argument when being considered explicitly under SEL outcomes [Studies 20, 39]. In saying that, CL has proven

successful in eliciting social-emotional responses in students and, in turn, challenged them to accomplish SEL emotional outcomes in PE. One study quantitatively investigated the effects of a CL PE program on sixth grade students' social skills and attitudes to group work tasks [Study 41]. While focusing on social skill development, authors included dependent variables that could be considered social and/or emotional behaviors – for example, “empathy,” “quick-temperedness,” and “disruptiveness” [Study 41: 360]. That the findings demonstrated gains in social skills and on preferences for cooperative group work implicitly substantiates “claims in physical education that social-emotional development should be a central pursuit of curriculum” [Study 41: 361]. In what we found to be the most explicit work aligning CL with SEL outcomes, an investigation into the impact of a sustained intervention on Spanish high school students' motivation also explored their feelings and thoughts after experiencing CL in PE [Study 29]. Students identified both enjoyment and disappointment within the unit, indicating that, over time, CL helped students to identify negative experiences in order to “truly learn how to learn and behave” [Study 29: 100] under the model. It must be highlighted, however, that this finding was a consequence of students not working cooperatively to the fidelity of the model. Rather than just directly instilling emotional competency with fidelity, the unit also indirectly helped students to name and address instances of disappointment with a view to potentially overcoming them.

Outdoor and/or adventure education

Thirteen OAE studies from four countries that gathered data from K-12 students identified SEL outcomes as well as using the terms “social skill development” and “psychological outcomes,” targeting the self-perceptions of self-worth and perceived social acceptance historically. Early work at US elementary level established that OAE activities challenged students to accomplish personal goals, such as cooperating with others, taking risks, having fun, and learning motor skills, through encouragement and advice given to each other during adventure activities [Study 18]. Similar qualitative research at high school level in New Zealand demonstrated that students have learned how to improve their chances of feeling good in an individually and socially positive way through OAE, learning about what it means to determine their lives and the lives of others through challenge, perseverance, motivation, responsibility, cooperation, and friendship [Study 16]. *Team Building through Physical Challenges (TBPC)* (Glover and Midura, 1992) also emerged as an intervention program that aligned OAE in Canadian middle school PE settings with SEL outcomes [Studies 24, 33]. Both of these studies observed significant increases in students' sense of self-worth and perceived social acceptance. TBPC's ability to develop SEL outcomes has been further confirmed in Canadian middle school settings where outcomes for global self-worth and perceived social acceptance for both male and female middle school students in co-educational and gender segregated PE settings have been noted [Studies 34, 35]. Expanding on this by examining physical self-concept along with intrinsic classroom satisfaction and social goals, it has been demonstrated that responsibility and relationships among Spanish high school students improved following an adventure education program in PE [Study 3]. Similar OAE research in the USA has also established that allowing high school students to learn and work together leads to increases in self-esteem, trust, and their ability to maintain social relationships with others as they discovered the characteristics, needs, and peculiarities of each member [Study 32].

Through emphasizing affective-based goals in PE classes, OAE has also been found to develop a social dynamic that helps male students name and challenge previous gender relations and masculinity configurations [Study 55]. More recent research on US middle school students has

further added to the mounting evidence that PE classes incorporating OAE promote positive psychological outcomes [Study 36]. Moving away from traditional forms of OAE implementation in PE settings, an innovative qualitative study assessed Spanish elementary students' ideas, views, and/or feelings after experiencing a parkour learning unit using the adventure education instructional model [Study 30]. The authors suggested that such an approach developed students' social skills and problem-solving skills and should be further encouraged and fostered in PE settings. Empirical studies on adventure based learning (ABL) drawing on student data to support findings in K-12 PE settings returned the strongest evidence of OAE producing outcomes promoting SEL. Focusing on a 15-lesson ABL unit of instruction on US middle school students' intrapersonal and interpersonal relationships skills, it was established that students had the ability to "connect with, value, develop, and even transfer" [Study 54: 27] relationship skills that had been taught in school-based PE. Significantly, students were able to express how they were using, or could transfer, this competency beyond PE. Following on from this, a similar study involving US elementary students examined the credibility of an existing ABL student learning outcome model in developing competent relationship skills, including commitment, helping others, leadership, and responsibility [Study 53]. Findings indicate that through ABL students can connect, value, develop, and transfer the targeted relationship skills that promote SEL.

Discussion

Practices promoting SEL are acknowledged to equip students to handle life's challenges, build and maintain quality relationships, and allow them to thrive personally and collectively (Osher et al., 2016). PE research has unquestionably examined and confirmed the connection between these three MBPs and SEL, albeit predominantly not using the same terminology or words to represent what we now refer to as SEL. Instead, individual studies and reviews have examined social and affective learning outcomes separately rather than through the concept of SEL, using different terminology such as personal and social responsibility, personal and social development, psychological outcomes, social outcomes, character education, and emotional outcomes. This has resulted in the attainment of an array of variables that align with SEL outcomes and many of which are describing the same thing. That SEL dispositions and skills are often differentially described and labeled in PE is understandable given that the topic has emerged from a variety of disciplines and academic discourses (Jones et al., 2016; Watson and Emery, 2010). Still, despite the array of terms, evidence from this scoping review substantiates claims that, along with SE (Bessa et al., 2019), TPSR, CL, and OAE can develop SEL skills and achieve outcomes that align with SEL and target social/interpersonal skills, cognitive regulation, and emotional processes (CASEL, 2015; Jones and Doolittle, 2017). Social learning has been frequently mentioned as a primary learning outcome through the use of MBP (Bores-García et al., 2020; Casey and Goodyear, 2015; Dyson et al., 2004; Lee and Zhang, 2019; Pozo et al., 2018; Sutherland and Legge, 2016). Indeed, this was found to be especially the case with CL, largely due to the emphasis this pedagogical practice places on social interaction and group processing. OAE also demonstrated its ability to accomplish SEL through focusing on developing interpersonal (personal) and intrapersonal (social) skills, such as establishing healthy social relationships with others including appropriate forms of communication, cooperation, active listening conflict resolution, and helping others (CASEL, 2013; Sutherland and Stuhr, 2014). In particular, TPSR's consistent ability to focus on the development of personal and social responsibility skills demonstrates its ability to closely align itself with current SEL frameworks (Gordon et al., 2016). As well as SE, all three MBPs in this review

demonstrated an ability to promote inclusion and equity. Rather than promoting one MBP over another, we argue there is a case to be made for each different MBP, and this requires further investigation if they are to be legitimized as comprehensively developing students' SEL. This is especially the case when it comes to considering the affective and/or emotional outcomes observed.

PE research involving TPSR, CL, and OAE has purposefully attempted to address the assessment of SEL through measuring and observing social and affective learning using a wide array of methodological approaches involving qualitative, quantitative, and mixed methods across K-12 settings. Yet, there is still very limited empirical evidence of explicit SEL outcomes occurring in PE through these MBPs (Bailey et al., 2009; Casey, 2014; Kirk, 2013). In line with Casey and Goodyear's (2015) observations, while it is possible to say SEL outcomes embodying social and affective learning were observed in the reviewed studies, it is more appropriate to suggest that there is evidence of only some key skills and elements of SEL outcomes occurring. Consequently, a need for understanding and clarity amongst those who wish to measure SEL outcomes due to their subjectivity exists. We acknowledge that it is difficult to determine exactly where and how the emotions, social interactions, and interpersonal skills that are part of MBP are implemented and acquired (Dyson, 2014). However, broadly describing and implying that affective elements of SEL are taking place only serves to add to ambiguity. This is compounded by the lack of studies found that have explicitly and intentionally targeted SEL outcomes. Out of 63 studies reviewed, only four studies in K-12 PE settings utilizing student data explicitly aligned themselves with contemporary SEL terminology, outcomes, and frameworks (Escarti et al., 2018; Fernandez-Rio et al., 2017; Stuhr et al., 2015, 2018). While these studies are currently considered strong examples of school-based SEL research, they are not without their limitations. For instance, Stuhr et al. (2015, 2018) clearly focus on the competency of relationship skills in their respective studies. Fernandez-Rio et al. (2017) primarily measured motivation, with disappointment and enjoyment emerging as themes. It would appear that while these three MBPs can accomplish SEL outcomes, specific outcomes have been prioritized over others. The extent to which all perceived outcomes are considered and implemented varies, and this does not automatically mean the attainment of outcomes across the board, and deeper interrogation is still required (Ross and Tolan, 2018).

Further methodological limitations highlight the need for the field to legitimize MBPs' ability to comprehensively accomplish SEL outcomes. High-quality SEL assessment can play a critical role in helping us elucidate and understand how to best conceptualize the variety of social-emotional outcomes that are critical for school and life success (McKown, 2017). Corcoran et al.'s (2018) and Sklad et al.'s (2012) calls for the accurate assessment of various skills and focus on a wider range of outcomes is also compounded by challenges in assessing how students ascertain SEL outcomes in PE (Schonert-Reichl et al., 2015). There is no universally agreed way of assessing how effectively SEL outcomes have been attained, making it difficult to definitively compare and contrast interventions in the PE literature (Humphrey, 2013; Martin et al., 2017). Adding to this, few validated measures for systematically observing and documenting student and teacher behaviors as they relate to SEL in PE means that assessing teacher effectiveness and students' learning outcomes is equally contentious (Wright and Irwin, 2018). The only systematic observation tools validated in PE settings and explicitly linked to SEL implementation that we observed in this review are the two versions of the Tool for Assessing Responsibility-Based Education (Escarti et al., 2015; Wright and Craig, 2011).

Another limitation of research so far is the uncertainty surrounding MBP translation into *real world* classroom settings, with the fidelity of school-based research implementation varying widely (Hastie and Casey, 2014; O' Donnell, 2008; Opstoel et al., 2020). Context matters, and in considering the results of these studies, we also need to consider various factors such as teachers' and students' previous experiences, cultural preferences, and economic, social, and emotional differences when assessing the quality of SEL programs (McCormick et al., 2015; Weissbourd et al., 2013). Within real world K-12 settings, the lack of appropriate climates and resources for teachers and students lead to lower levels of behavior and performance (Humphries et al., 2018). Many studies in this review contained participants invested and trained in how to implement MBP. For instance, Stuhr et al.'s (2015: 29) study noted that principal investigators and university professors were lead practitioners in the interventions as this was "found to be the most effective way to deliver the material to students rather than having a teacher with no experience deliver the unit." Ang et al.'s (2011) study acknowledged that the researcher had to assist the generalist teacher during the implementation of the study. Such synergy, while ensuring fidelity, can also lead to scrutiny of their viability to translate into real world classroom settings with regular teachers. In line with Raimundo et al. (2013), despite a commitment to fidelity one cannot be sure whether the positive results in these studies are due to the interventions or to unmeasured characteristics of the staff who delivered them. There is a need to conduct further research that reflects the unique settings and challenges faced by teachers and students.

Finally, there have been consistent calls in general education for observing and assessing the quality of SEL initiatives using a multi-year approach (Carroll et al., 2017; Doikou-Avliidou and Dadatsi, 2013; Merrell, 2010). Bessa et al. (2019) acknowledged that most of the SE studies reviewed were not implemented for 20 lessons, as typically recommended by proponents of SE. This review confirms that TPSR, CL, and OAE interventions have similarly tended to focus on delivery ranging from one unit to a number of units within a school year only (Casey and MacPhail, 2018). Despite promising rationales and theoretical considerations, further evidence is required as to what the impact on SEL in PE might be when using multiple or single models consistently over time beyond one school year (Casey, 2016; Haerens et al., 2011). Seeking meaning from an interpretivist perspective (Pope, 2006), the variety of settings, participants, procedures, and assessment brings into light some of the complexity of such work so far, which needs to be addressed in future research agendas.

A future research agenda

The evidence suggests that TPSR, CL, and OAE can accomplish SEL outcomes in PE. However, similar to general education, we do not know as much about if and how these pedagogical approaches accomplish such outcomes comprehensively. Education is a complex endeavor and "rarely functions in mechanistic ways, where a certain input or intervention will produce a certain outcome" (Quennerstedt, 2019, p. 613). This scoping review demonstrates the difficulty in determining if any one form of MBP can comprehensively accomplish SEL outcomes on its own. While we acknowledge that notable and unquestionably worthwhile work has already taken place using these MBPs in university, youth development, and out of school physical activity settings (Gordon et al., 2016; Stuhr et al., 2017; Sutherland and Stroot, 2010), this has yet to be fully realized at the coalface in the PE gymnasium across K-12 settings. In forwarding a future research agenda, we firstly call for more careful consideration of the limitations previous SEL-related studies have been bound by, and for the requirement of caution in their interpretation

(Humphrey, 2013). The rhetoric surrounding SEL and its attention to the affective domain is not matched by a substantive body of empirical research that aligns and dedicates itself solely to investigating the attainment of SEL student outcomes in PE using a contemporary theory, framework, and recognized assessments. Much of our understanding of SEL relies heavily on MBP impact on students' social learning more so than their emotional learning. We recommend future research addresses this imbalance, with appropriate focus placed on students' affective learning using research that gathers rigorous research evidence in school-based settings.

Encouraging from our review of the TPSR, CL, and OAE literature is the number of qualitative and mixed methods PE studies compared to the predominance of quantitative inquiry currently in general education (Corcoran et al., 2018). Further emphasis on qualitative research, especially at an elementary level, can help us to better understand the *black-box* of SEL program interventions, which may not be uncovered using a decontextualized quantitative approach (Dyson et al., 2019). Further limitations in the effectiveness of SEL initiatives in PE using MBP comes from their relatively short-lived implementation periods considering the longitudinal timeframe within which students experience, acquire, and develop skills and attain outcomes. There is a need for large-scale studies over longer timeframes or ethnographic work in schools to augment what is currently being presented in the PE literature. We recommend that future SEL studies be conducted in a variety of school contexts, planned, delivered, and evaluated by those directly involved and invested in the process – the teachers and students. While not in a K-12 setting matching the criteria of this review and involving small numbers, we regard Gordon et al.'s (2016) mixed methods study examining a two-year afterschool leadership program with at-risk US middle school students using the TPSR model and aligning with the CASEL's (2015) SEL theoretical framework as a promising template. Not only was a direct linkage made between the TPSR intervention and the SEL framework and outcomes, but also implementation fidelity was addressed directly to substantiate linkages between the MBP and student outcomes. For OAE and SE, the works of Stuhr et al. (2015, 2018) and Ang and Penney (2013) respectively represent blueprints for further exploration also. In addition, Dyson et al.'s (2010) CL study is recognized as pointedly demonstrating how each structural component of the model was implemented and sustained over a six-month period with fidelity (Casey and Goodyear, 2015). Finally, while excluded from this review due to inclusion criteria, hybrid models (González-Víllora et al., 2019) and the research approach adopted by Casey and MacPhail (2018), which connects different MBPs within a school's curriculum, both hold great promise. Most importantly, aligning future research involving these three MBPs and other pedagogical approaches with a suitable framework and theory involving teachers and students can advance future research on SEL in PE and is necessary in order to develop a common language and understanding within the field.

Conclusion

It is clear from this scoping review that research into TPSR, CL, and OAE has aligned findings with SEL outcomes that demand further explicit and empirical evidence for their further legitimization. Echoing Jones et al. (2017), we know SEL through MBPs in PE can work, but we lack knowledge and understanding about what is happening in their implementation, and how differently each model makes it work in K-12 settings. As our title suggests, rather than assuming *we have been doing this all along* we need to explicitly show *how we are doing it now*. Longitudinal school-based research utilizing student data and a strong SEL theoretical framework that works to represent the uniquely intricate nature of PE as a subject has the potential to increase the

knowledge base and contribute substantially to educational policy. PE is seen as a great place to teach, reinforce, and practice SEL skills (Ciotto and Gagnon, 2018; Dyson, 2019; Jacobs and Wright, 2014). The PE of students is much broader than just physical activity, and we disserve the field if we do not rigorously critique the rhetoric and promise of PE in promoting SEL. In closing, we call on the field to further affirm these three MBPs and other pedagogical approaches in PE as effective mechanisms through which we can comprehensively teach students to learn and demonstrate SEL and help them to succeed both in and beyond K-12 classrooms.

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Supplemental material

Supplemental material for this article is available online.

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