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Confidence in Motion: How Physical Activity, Culture, and Literacy Build Youth Self-Efficacy

Anagabriela Ayala Cosme[1*], Brittany Pinkerton[2] & Christine Craddock[3]
[1,2]Augusta University, Georgia, United States
[3]Delaware State University, Dover, United States
Correspondence: E-mail: ccraddock@desu.edu

ABSTRACT

Physical activity has been linked to improvements in cognitive function, academic performance, time on task, emotional regulation, and social development. This study investigates the impact of Teaching Personal and Social Responsibility (TPSR) and Culturally Relevant Pedagogy (CRP) frameworks on participants' self-efficacy at an afterschool program that integrates physical activity with multimodal, academic literacies. Understanding how these frameworks impact self-efficacy can guide improvements in educational practices within the program and potentially in school settings. We used qualitative data analysis (of journal entries, program artifacts /images, and self-efficacy surveys) along with quantitative data (from surveys, handgrip tests, and 2-minute walk tests). After analyzing the data, significant improvements in students' self-efficacy were observed, especially within the program setting. Qualitative themes of fostering continuance and community capacity suggest that program-specific factors such as relational support, autonomy, and culturally responsive engagement positively affect youth self-confidence and academic literacy engagement. By examining the intersections of physical activity, culturally responsive teaching, and literacy development, this study contributes to a growing body of research on how a structured, multimodal physical activity program can build youth self-efficacy and enhance educational outcomes across diverse learning environments.

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INTRODUCTION

Youth engagement in physical activity consistently demonstrates benefits beyond physical health, including improvements in cognitive function, academic performance, emotional

awareness, and social development (Bandura, 1997). Through out-of-school settings, these benefits can be explored in more depth with frameworks that center youth identity, confidence, and holistic growth. This manuscript examines the intersection of two such models: Teaching Personal and Social Responsibility (TPSR) and Culturally Relevant Pedagogy (CRP) (Hellison, 2011; Ladson-Billings, 1994), when implemented through the Get Fit! With Math & Lit program (Pinkerton & Craddock, 2024a). This is an after-school program meant to positively engage youth with physical activity and academic literacies concurrently during sessions.

By comparing participants' experiences in the program setting and school environments, this study seeks to identify whether combining TPSR and CRP can support student confidence, engagement, and the transfer of self-efficacy from after-school programs into academic contexts. TPSR promotes personal and social development through structured physical activities, while CRP emphasizes high expectations, cultural bridging, and critical consciousness (Ladson-Billings 1994; 2014). Together, these models can form a multimodal framework aimed at fostering youth development across physical, academic, and social domains.

Multimodality describes how representation and meaning is understood and communicated using multiple modes like speech, text, gesture, color, signs, symbols, numbers, sound, and images, etc. (Kress, 2010). Thus, content area subjects in school environments like physical education, mathematics, and traditional literacy instruction (reading, spelling, phonics, and writing) require multimodal pedagogy and representations across grade levels and contexts (Chandler-Olcott, 2017; Craddock, 2022).

This ongoing mixed-methods study explores how combining these frameworks may contribute to youth self-efficacy—the belief in one's ability to bring about a specific outcome or change (Bandura, 1997). Through the analysis of self-efficacy surveys, journal reflections, and physical capability assessments, we explored how youth view their own abilities within the after-school space compared to their school contexts and whether those beliefs change over time. This research aims to contribute to evolving conversations on the role of integrating culturally responsive physical activity with academic engagement and empowerment among youth.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Culturally relevant pedagogy (CRP), originally described by Ladson-Billings (1994) as an ethics of care emphasizes three primary tenets—academic success, cultural competence, and critical consciousness (Ladson-Billings, 1994; 2014). Academic success means leaders or educators continually hold high expectations for all learners and maintain the belief that all youth can succeed (Ladson-Billings, 2014). Cultural relevance aims to foster connections and understanding of culture within and among students, youth participants, and instructors. Lastly, critical consciousness is the development of thoughtful questioning of systemic inequalities and/or differences among populations (Ladson-Billings, 1995). CRP has historically been

applied to K-12 educational contexts; limited research exists on the application or inclusion of CRP in physical activity and sports-based settings. Our Get Fit! With Math & Lit program incorporates the principles of CPR along with a commonly used physical education model, TPSR (Pinkerton & Craddock, 2024a). However, more work is needed to explore the applications and implications of CRP in physical activity and out of school settings.

TPSR is commonly used as a model in physical education and promotes social emotional learning (Wright et al., 2020). Social emotional learning can be understood as holistic development to understand emotions, reciprocal relationships, and ownership of choices (CASEL, n.d.). TPSR lends itself to CRP because it fosters relationships or cultural relevance while supporting critical consciousness. TPSR is based on the principle of empowerment of all youth, especially those who are considered underserved or underrepresented (Hellison, 2011). TPSR follows a specific pedagogical framework consisting of five steps: relational time, review of life skill or value through an awareness talk, physical activity, group meeting, and reflection time.

The combined frameworks of CRP and TPSR produce a multimodal, holistic youth development model. The aim of this study is to explore if these two models together can promote self-efficacy and transfer confidence from a youth program to school settings. This program intentionally incorporated creative exercises, innovative activities that promoted mathematics and literacy skills, and unique materials (such as hula hoops, jump ropes, soccer balls, dry-erase dice, bungee cords, lettered/numbered colorful bean bags, and poly spots); we promoted participant engagement and connections using these multimodal literacies. Thus, multimodality was a common vehicle for promoting youth involvement with multiple content areas while maintaining a focus on physical activity alongside academic goals with both a TPSR and CRP framework (Pinkerton & Craddock, 2024a; 2024b).

Self-Efficacy

Self-efficacy is a key part of motivation and plays a significant role in determining how people approach goals, tasks, and challenges. People with high self-efficacy tend to set challenging goals, put in more effort, and persist longer when faced with obstacles, while those with low self-efficacy may avoid challenges or give up more easily due to a lack of belief in their abilities. Bandura emphasizes that self-efficacy is not a general trait but rather domain-specific, meaning that a person may feel confident in one area (e.g., sports) but lack confidence in another.

Bandura (1997) identifies four primary sources of self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and physiological states. Mastery experiences, or success in past endeavors, are the most effective in boosting self-efficacy, as they provide direct evidence of capability. Vicarious experiences, or observing others succeed, can also enhance

one's belief in their abilities, particularly when the observer perceives the person as similar to themselves. Verbal persuasion, such as encouragement from others, can boost self-confidence, though it is less powerful than actual experience. Finally, physiological states like anxiety or fatigue can influence self-efficacy, as people may interpret physical reactions as indicators of their inability to perform a given task. Bandura's work on self-efficacy has broad implications, especially in educational and psychological settings, where fostering self-efficacy can enhance learning, resilience, and overall well-being. Exploring self-efficacy in the after-school program, particularly how CRP and TPSR influence its development, can provide insight into how these models build youth confidence and transfer self-efficacy into academic settings.

TPSR and CRP

A key component of TPSR is personal responsibility, which encourages students to understand how their behavior impacts their learning and performance in physical activities. Teaching children to take responsibility for their actions promotes accountability and self-discipline, both of which contribute to their overall development in educational settings (Escartí et al., 2009; Hellison, 2011; Pan & Hsu, 2024). Another significant aspect of TPSR is social responsibility, which fosters teamwork, cooperation, and respect for others. By learning to collaborate with their peers, students develop essential social skills that help create a supportive and inclusive learning environment in physical education classes (Escartí et al., 2009; Hellison, 2011; Pan & Hsu, 2024). Additionally, TPSR is linked to improvements in self-efficacy, as students who receive positive reinforcement, engage in goal setting, and reflect on their progress gain a greater sense of control over their abilities and performance (Bandura, 1997; Cruse, 2019; Escartí et al., 2009).

TPSR has been recognized as an effective approach for improving self-efficacy among elementary and middle school children in physical education (Wright et al., 2020). This model focuses on fostering personal growth, social skills, and self-confidence, ensuring students develop essential life skills alongside their physical abilities (Escartí et al., 2009; Hellison, 2011; Pan & Hsu, 2024). TPSR emphasizes teaching students to take responsibility not only for their own actions but also for how they interact with others, particularly in group settings or sports activities. By encouraging students to take ownership of their behavior and engage positively with peers, the model helps them develop a greater sense of accomplishment and competence in physical activities (Escartí et al., 2009; Hellison, 2011; Pan & Hsu, 2024).

The principles of CRP align closely with TPSR by incorporating students' diverse backgrounds into the learning process. CRP emphasizes the importance of creating an educational environment where students feel represented and valued, which has been shown to enhance

engagement and self-efficacy (Cruse, 2019; Ladson-Billings, 1995, 2014). In physical education, culturally relevant practices can be integrated by recognizing various movement styles, incorporating games from different cultures, and encouraging students to engage in social responsibility in ways that reflect their lived experiences (Gay, 2010; Pan & Hsu, 2024).

Through TPSR, students not only build self-confidence but also develop cultural competence by working collaboratively with peers from different backgrounds. Research highlights that fostering social competence is crucial for success in diverse classrooms and helps prepare students to be responsible global citizens (Cruse, 2019; Gay, 2010; Ladson-Billings, 2014). Moreover, it appears CRP may encourage critical thinking, especially in physical activity settings, where students can analyze how societal norms and values influence physical activities and sports. By using these moments as teachable opportunities, educators can instill values of equity, respect, and inclusion, reinforcing both personal and social responsibility among students (Cruse, 2019; Ladson-Billings, 2014).

By integrating TPSR with CRP, physical activity and sports leaders can create more inclusive, supportive, and empowering learning environments for all students. The existing research does not explicitly link CRP to self-efficacy, particularly in physical activity and sports-based settings. While CRP has been widely examined in educational contexts (Cruse, 2019; Ladson-Billings, 2014), little research explores its role in fostering self-efficacy. Similarly, TPSR has been applied to youth development and social-emotional learning (Hellison, 2011; Pan & Hsu, 2024), its direct connection to self-efficacy remains unclear. This gap in the literature highlights the need for further exploration of CRP and TPSR within the after-school physical activity program. Likewise, interweaving academics into physical education with consideration for culture merits more attention (Marttinen et al., 2019; Simpkins et al., 2017). In our program and study, we seek to determine whether combining these models can promote self-efficacy and support the transfer of multiple physical and literacy skills from the youth program to academic settings.

METHODOLOGY

This study examines the potential academic and social outcomes of implementing TPSR alongside CRP within an after-school physical activity and literacy program. We used a mixed-method study first focusing on descriptive statistics for physical assessment measures. This is paired with qualitative analysis and design that uses case studies to corroborate the descriptive measures and interpret the social context of physical activity both naturally and holistically using a multimodal, social semiotic perspective (Glesne, 2016; Kress, 2010).

The following research questions guided this study:

- What is the nature/role of TPSR and CRP in the promotion of self-efficacy in an after-school learning environment?
    - How do TPSR and CRP together support the transfer of self-efficacy from an after school-learning environment to school environments?
    - How do TPSR and CRP facilitate self-efficacy improvement in multiple literacies such as mathematics, reading, writing, and physical literacy?
    - What is the nature or role of multimodal literacies in demonstrating or transferring participant self-efficacy?

Our study has evolved through years in an iterative nature with multiple rounds of data sources; thus, our methodology is framed by "inquiry as stance" which emphasizes critical inquiry, triangulation and crystallization of data collection, research reflexivity and proximity to ensure trustworthiness in the data over time (Cochran -Smith & Lytle, 2009). Since different participants display various experiences and interpretations best reported through rich, thorough description, we use purposive sampling of five focal participants to represent this term of data (Creswell, 2014). Through these methods, the study explores how our frameworks support student engagement, participation, and development of transferable skills, such as personal accountability, respect, and critical thinking. What follows is a brief description outlining details of the program's implementation and the data collected, along with specific descriptions of methods of data analysis.

Program Context

The multimodal activity program Get Fit! With Math & Lit took place at an urban community center in a downtown Southeastern city of the United States. The community center houses a local university's literacy center and is a space intended to be a collaborative effort to revitalize two historically low-income neighborhoods by providing essential services for local residents. Other non-profits are housed in the facility such as a farmers' market, a family healthcare clinic, and tutoring services. By centralizing healthcare, education, and food resources, the community center supports local residents and neighborhood revitalization.

Get Fit! With Math & Lit took place at the community center two times per week for 45 minutes per session during the spring of 2025. This program has been ongoing for two years. The participants of the program are recruited via flyers from local district schools, the literacy center, tutoring services, and the center's users. It is important to note that the community center was a FEMA site during January, February, and some of March in response to Hurricane Helene. While Get Fit! With Math & Lit was able to run during this time there was a large presence of bystanders and armed security guards.

Data Sources

The NIH Toolbox Motor Assessment provides an additional framework for evaluating motor function in children, with a comprehensive measure of both fine and gross motor skills, offering developmental insight (Weintraub et al., 2013). The Hand Dynamometer and 2-Minute Walk Test are tools adapted for use in children to assess their physical capabilities. Grip strength was measured using a hand grip dynamometer (BASELINE Hydraulic Hand Dynamometer). The participants stood, holding the device with 90° of elbow flexion. The participants performed the test three times using both the left and right hand with a minimum of 10 seconds of rest between each trial. The students' highest measurement was documented. The hand dynamometer measures grip strength, tracking motor development and helping identify delays or challenges. The 2-Minute Walk Test evaluates cardiovascular and muscular endurance and functional mobility. The participants started behind a line, walked 25 feet to another line, and back to the start line for 2-minutes. The number meters walked was recorded and documented. Measurements were taken during Week 3 and Week 4, and again during Week 13 and Week 14 (dependent on participant attendance) to assess progress over time.

A Self-Efficacy Questionnaire was created because Bandura (1997) specifies that self-efficacy is domain-specific, implying that the participants may feel confident in one area (e.g. math or writing), but lack confidence in a different area. The Self-Efficacy Questionnaire was administered at Week 3 and again during Week 13 and 14 (See Appendix A for example questions). Daily multimodal journal responses were collected and a semi-structured focus group conducted at the end of the program further explored these perceptions. Data was loaded into NVivo 15 for thematic analysis utilizing a social semiotic multimodal approach (Kress, 2010). We incorporated multimodal analysis as suggested by Kim and Kim (2016) who utilized Halliday and Hasan's (1989) analysis of language according to field (topics of interaction), tenor (relationships in interaction), and mode (modes used during interaction). Codes were generated using an inductive approach (framed by Bandura's tenets of self-efficacy: mastery, vicarious experience, verbal persuasion, and physiological arousal) by two separate coders leading to axial and selective coding, ultimately leading to researcher discussion of pervasive themes (Saldaña, 2009; Strauss & Corbin, 2008).

RESULTS

A total of six participants (N=6) took part in the program during the semester of this study; however, only five participants provided full consent for data collection. These students

voluntarily attend sessions and are recruited to participate in the program after being referred to the community center's literacy center for tutoring and development. Across the 20 sessions conducted, there was an average of 3 participants per session. See Table 1 for participant demographics.

Table 1. Participant Demographics

Participants	Grade level	Age	Sex	Race
R	3rd	9	F	White
Ar'	6th	13	F	Black
F	4th	10	F	Black
E	2nd	8	F	Black
Fn	6th	12	M	Black

Summary of Descriptive Measures

In the 2-minute walk test, all four participants with complete pre-test and post-test data showed improvements in walking endurance. For example, E improved from 152.4 meters to 209.6 meters, a gain that moved her from below to well above average from her age group (Bohannon et al., 2017). These improvements suggest the participants experienced improved cardiovascular endurance. Participants Ar' and Fn were not in attendance for the post-test; therefore, no changes were seen in their data. The Normative Values section of the table indicates whether participants fall into the above average, average, or below average range (Bohannon et al., 2017). For a more detailed breakdown of individual results for both right and left hands (R/L) and comparisons to normative values, see Table 2.

Table 2. Two Minute Walk Test

Participant	Pre (Kgs)	Pre-Normative Value	Post (Kgs)	Post-Normative Value
R	R-31	Below Average	R-41	Above Average
	L-25	Below Average	L-35	Above Average
F	R-39	Average	R-49	Average
	L-35	Below Average	L-34	Below Average
E	R-41	Above Average	R-49	Above Average
	L-38	Above Average	L-41	Above Average
Ar'	R-71	Above Average	N/A	----------
	L-81	Above Average	N/A	----------

Similarly, the handgrip strength assessment showed notable changes from pre- to post-test results. For example, R improved from 31/25 (right/left) to 41/35, which brought her above

average normative values. Ar' had strong pre-test results, but we were unable to gather post-test data. By providing normative data, we identify if the participants are within the typical developmental ranges or if they may have problems relating to muscle strength or motor development. For more details on each participant's results, refer to Table 3.

Table 3. Handgrip Strength Test

Participant	Pre	Normative Value	Post	Normative Value
R	152.4m	Below Average	198.1m	Average
Ar'	183m	Below Average	N/A	----------
F	152.4m	Below Average	198.12m	Average
E	152.4m	Below Average	209.6m	Above Average
Fn	183m	Below Average	N/A	----------

Based on the physical assessments, both the 2-minute walk test and the handgrip strength test provided insight into the participant's functional capacity and physical development. When we compared the data to the national normative values (Bohannon et al., 2017; Mathiowetz et al., 1986).

In addition to physical assessments, a self-efficacy questionnaire was administered pre- and post-program to explore changes in students' confidence across academic and physical activity domains. The results reflect how the students perceived their abilities in physical activity, math, reading, and writing both in school and during the Get Fit! With Math & Lit sessions. According to Bandura (1997), self-efficacy is task-specific and shaped by direct experiences, verbal encouragement, and physiological responses, all of which were actively supported within the program's structure.

At the start of the program, several students rated themselves as only "kind of confident" or "not confident" in their ability to perform academic tasks at school (particularly math and writing). For instance, E reported being "not confident" in her ability to respond to math questions at school, while F reported being only "kind of confident" in reading during school hours. These responses suggest students may have internalized negative academic self-perceptions, which may have been influenced by earlier academic struggles or mastery opportunities (Bandura, 1997; Pan & Hsu, 2024). This will be further discussed and illustrated through themes from the qualitative data analysis and sources. For a more detailed breakdown on individual pre-test survey responses, see Table 4. The table depicts a brief description of each question asked about self-efficacy in different areas and different contexts (school versus

after-school sessions). Sample multimodal survey questions can also be found in Appendix A. The survey responses have been converted into Likert scaled amounts.

Post-test responses showed a noticeable positive shift in confidence across both school and session settings, with the most improvements seen during the program sessions. Participants who initially rated themselves as "kind of confident" or "not confident" in physical and academic tasks during early sessions marked "extremely confident" by the end. For instance, participant E showed increased confidence with math. Unfortunately, we were unable to gather data on R's self-efficacy post-test due to her not being in attendance during the last session; this may have changed some final averaging outcomes or results.

Table 5 displays the pre- and post self-efficacy survey response averages highlighting the comparison between sessions (at Get Fit! With Math & Lit) and school experience. Interestingly, both support in school and support in the sessions declined, with school support declining more. The reason for these changes is unknown but we speculate that the end of the school year may bring about feelings of discontent. Additionally, spring break is late in the spring for youth; they completed the post-test survey the week they returned to school and the program.

Table 4. Self-Efficacy Survey Results Summary

Question	Ar'-pre	Ar'-post	R-pre	R-post	E-pre	E post	F-pre	F post
Session PA confidence	4	4	4	N/A	4	4	4	4
School PA confidence	4	4	3		2	4	4	4
Session math confidence	4	4	3		2	1	4	4
School math confidence	4	4	2		1	4	3	3
Session writing confidence	4	4	3.5		3	4	4	2
School writing confidence	4	4	N/A		4	4	2	3
Session reading confidence	4	4	4		4	4	1	2
School reading confidence	4	4	4		4	4	1	2
Session express choices	3	4	4		4	4	4	4
School express choices	4	4	2		1	1	1	1
Session belonging	4	4	4		2	4	4	4
School belonging	4	4	3		2	4	4	4
Session	4	4	2– Peers		4	3	4	4

supported			4– Leaders					
School	4	4	1–Students		4	2	4	4
supported			4–Teachers					

Table 5. Self-Efficacy Survey Average Comparisons

Question	Pre	Post
Session PA confidence	4	4
School PA confidence	3.25	4
Session math confidence	3.25	3
School math confidence	3.33	3.67
Session writing confidence	3.63	3.33
School writing confidence	3.33	3.67
Session reading confidence	3.25	3.33
School reading confidence	3.25	3.33
Session express choices	3.75	4
School express choices	2	2
Session belonging	3.5	4
School belonging	3.25	4
Session supported	4	3.67
School supported	4	3.33

Staying true to our multimodal framework and emphases, we developed a visual display to summarize and connect our quantitative measures to begin to interpret our qualitative findings. This is pictured in paired images (Figure 1) of both pre- and post-survey results to illustrate participants' growth in different areas. Most notably, we see positive changes and increase in students' self-efficacy related to physical activity and belonging.

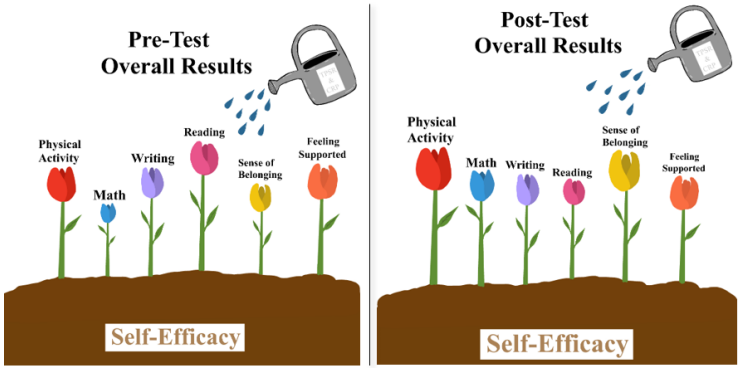

Figure 1. Multimodal Representation of Survey Changes

Qualitative Findings

To pair with the quantitative findings and descriptive measures, qualitative sources were coded which resulted in two key themes to support and interpret these results. Table 6 summarizes the qualitative data sources analyzed using NVivo 15 to support and expand on the quantitative data. Together these sources provided deeper insight into participant experiences, engagement, and development through the program. Two qualitative themes appeared from the data which include fostering continuance and community capacity.

Table 6. Data Sources

Data Source	Format of Data	Number of Sources
Participant Journal Entries	Written text and drawings	20
Artifacts	Pictures	15
Observations and Reflections	Typed text	30
Focus Group Interview	Audio recording/Transcript	1
Self-efficacy Scales	Survey	3 sets

Fostering Continuance

The significance of the concept "continuance" was illuminated through various aspects of the program. Starting with the utilization of TPSR, a daily format is consistently followed involving relational time, group discussion while stretching, physical activities, and a closing reflection consisting of journaling. Further representation of this continuance is reflected through attendance; three of the participants, R, Ar', and Fn, have been part of the program for more than 1.5 years which has taken place every spring and fall semester for about 14 weeks each since Fall 2022. Their continued engagement allows for mastery of the various aspects of the program such as relationships, academic success, physical literacy, and life skills/values. E and F recently joined the program but consistently attended throughout the term of this study and intend to participate in Fall 2025. Youths' commitment to participate in the program suggests they enjoy the program since attendance is fully voluntary. Similarly, their guardians support the idea of the program and find a sense of belonging within the program since they have to provide their own transportation to attend.

Relationship development is evident not only in the youth's survey outcomes but throughout observations noting the participants hugging one another, helping one another, and waiting for the program to start until all participants arrive. Relevant to the TPSR framework, the repeated use of voices and choices is frequently evident in qualitative sources as youth chose the games we played, the mathematic equations they solved, and the music they listened to. They often showed the agency in creating games that included multimodal literacy. The

following excerpt from field note observations of March 4, 2025, illustrates the cultivation of relationships:

> E and F were so excited to get R out of her car and welcomed her into the building. It has been sweet to see their friendship grow. We discussed the word leader/leadership. During the discussion E and F said their sister was a leader to them and R said her mom was a leader. F asked, "When we go to school, who are our leaders?" Dr. P explained that teachers and principals are leaders. We moved on to the first activity, which was Hot potato (per R's request) and the kids really enjoyed it. Then Dr. P had to leave and Ms. A finished up with the youth. The girls didn't want Dr. P to leave and held onto her. Their energy was very high, which made programming somewhat difficult!

Through the cultivation of relationships and agency in examples like this, the concept of consistency and continuity was sustained. Continuance also supports self-efficacy, specifically mastery. Youth were provided ample opportunities to engage with multimodal literacies involving mathematics, spelling, reading, writing, and physical activity. Participants engaged in gamified activities that incorporated mathematics and spelling practices promoting the aspect of academic success that is pivotal to CRP and is often underemphasized in physical activity programs. For example, Figure 1 shows the outcomes of a game that utilized mathematics and hula hoop rolling that we called Rolly Poley.

The game was played in a corridor with blocked flooring. The blocks had different numbers assigned to them. The participant would stand behind the designated start line and roll the hula hoop as far as they could down the corridor. Wherever the hula hoop stopped, the number associated with the block was recorded. After the second turn, the participants multiplied their first recorded number by the second recorded number. After this was completed 3 times, the participants totaled their outcomes to find a winner. While most often self-comparison and goal setting is prioritized in our physical activity sessions, some games did incorporate competition amongst peers.

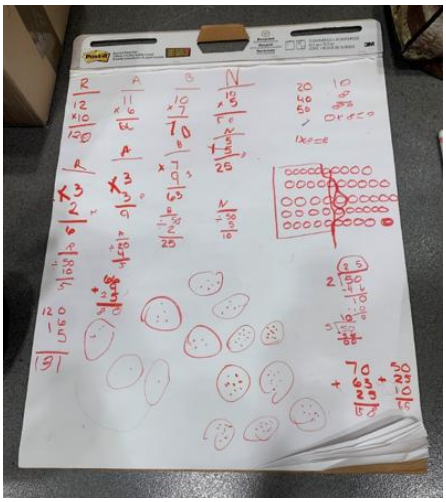

Figure 2. Rolly Poley Game Outcomes

Reading and writing were also present steadily throughout the program to foster continuance in prioritizing these literacies and skills as a part of both CRP and physical activity. Reading was incorporated by reading characteristics/traits, physical activity descriptions, and physical activity stories written by one of the leaders to facilitate TPSR with the group. The physical activity passages were read by a participant to the group and consisted of short stories that incorporated movement. An example story included a child playing video games (act out playing video games) who was running late to meet with their friends at the basketball court so they had to run (run in place) to get there on time, and had to dodge puddles (hop around), to get there and play basketball (play basketball).

The opportunity to write also consistently appeared in various ways that promoted and fostered continued understanding of writing as a key mechanism of multiple literacies including physical activity—this includes ideas like writing with chalk when engaging with outdoor activities, spelling out words and calculating numbers in sets, games, or exercise repetitions in journals, and reflective journalling at the end of the lessons. While journaling, some youth chose to draw which is still fostering a continued perspective of multimodal writing. Within all these activities, the program leaders' role was also pivotal in fostering continued support and self-efficacy, helping youth problem-solve and master the content presented to them. As evidence, field notes confirm the presence of a continued development of a vicarious atmosphere. For instance, during many of the games, participants would take turns celebrating and encouraging the success of their peers.

Despite the progress we saw in cultivating this consistency with participants, communication with stakeholders like guardians is still a limitation of the program. A schedule of the program dates was provided to each caregiver. A weekly email was also sent to each caregiver to remind them if the program was occurring or not. Despite weekly emails and a calendar, some youth were absent from program sessions throughout the term. While this was sometimes due

to other commitments, it was also impacted by guardians forgetting that the program was taking place. This in turn had a domino effect that impacted data collection; it will be something we seek to improve in fostering continuance as a key aspect of supporting youth self-efficacy in the program and developing program recruitment. This also leads into the second theme of developing community capacity in terms of improvements and gains we saw in the program and also ways we hope to enhance our sessions in the future.

Community Capacity

Building community capacity as well as stretching community limits emerged as a result of our efforts to build youth self-efficacy in our dynamic afterschool program. Community capacity is a concept related to describing both the participants in our program as a micro-community and the goals of the broader community and center we operate within. For example, the community center was used as a FEMA site after Hurricane Helene which caused the programming to take place in a corridor rather than a consistently large classroom or space. While we have operated and adapted to various space constraints before, the presence of FEMA and individuals in need of services limited the amount of noise we could make. Security guards were present, which at times caused concern or intimidation among participants. This highlights the sometimes unanticipated and less obvious aspects of building both continuance and community. It was illustrated in qualitative sources that cultivating belonging as well as students' capacity to feel connected to a place and a group are certainly affected by the physical environment. This study's data affirms the importance of effectively acknowledging and nurturing multiple aspects of community including physical space and social interactions, along with physical and academic support to promote youth self-efficacy.

The center also hosts various events as a part of its community support which this term included a gun violence prevention program, an indoor weekly community farmer's market, and formal University related events. During these times we had to transition the program outside, which represented our program and micro-community's ability to shift since sometimes the events could prove a distraction to youth participants. In turn, our leaders made efforts through the CRP and TPSR framework to help youth internalize the concept of flexibility, resilience, and adaptation as part of their capacities for self-efficacy in both physical and academic literacies.

Accordingly, it was evident through our qualitative findings that community capacity was built among participants and also between the program leaders and participants. We purposefully focused on building community and cultivating a sense of belonging among the participants. For instance, when a new participant joined the program, we would veer from our daily format to focus first on community building. Most often this was facilitated during getting-to-know-you

activities, identity affirmations, and open discussions that started and closed the sessions. To build capacity we used relational time and the focus on weekly life-skills and values to integrate discussion around what community means and what makes someone feel they are part of a community. Additionally, we asked participants to draw a symbol that resonated with them and write their name during journaling and chalk time so they could represent themselves in that space and to one another. Even when participants had conflicting schedules with literacy tutoring at the center, field notes indicate they would stop by the program to say hi and share personal updates. The excerpt below from observations and reflection notes how participants felt about the program.

> The kids wanted a break to catch their breath so while they relaxed, we spoke about the meaning of the words community and belonging. E responded by saying "community is a group of people like us." A said belonging meant being a part of something and F agreed with both answers.

Figure 3 depicts a lesson plan from the beginning of the spring session programs. Values (word of the day/week), activities, and journal prompt were purposefully selected to cultivate a sense of community. Similarly, Figure 4 shows chalk notes developed during participant discussion related to similar values of community and belonging.

1/28/25
Participants: E, F & A
Word of the day/week: Community and belonging
Activities

1) Run a hall length
2) Re-introduce yourself, name and physical activity but spell the physical activity then everyone completes 4-10 repetitions of the activity.
3) Freeze tag
    a. Add in other types of movement like waddling, galloping, crab walk, bear crawl. Spell the name of the animals that are associated with the movement.
4) R's lily pad red light green light game
    a. Spread the poly spots out with both numbers and letters face up
    b. One person is the caller at the opposite end of the spots
    c. As the caller says red light or green light people move. If you are caught moving during a red light, you go back to the beginning.
    d. As people stop on spots select a number and an activity and perform that number and activity. If possible, record the numbers and add them all up once done with the game.
5) Either Or
    a. Allow participants to pose either or options and include physical activity like squats, push-ups, lunges, mountain climbers, sits ups.

Journal prompt: How do you make others feel welcomed and like they belong?

Figure 3. Activity Plan Example

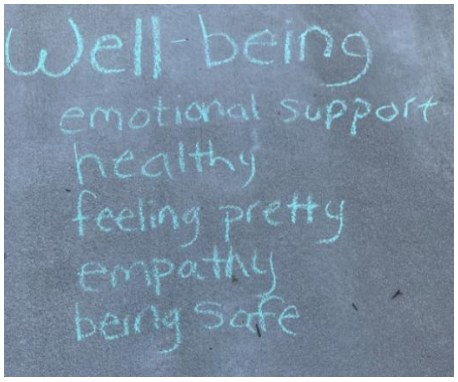

Figure 4. Chalk Values Discussion

Thus, having a sense of belonging and community capacity allowed participants to express their voices and make choices within the program, a key tenet of TPSR. Data sources indicate multiple instances in which participants were encouraged to express their creativity by requesting activities for the following session and often made up their own multimodal physical activity games. Besides the Rolly Poley game explained above, one participant, Fn, gamified mathematics. The mathematics game was played outside. It began with a starting line with numbered poly spots placed on the ground 25 feet away. The participants would start behind the start line, run down and jump on a numbered poly spot, go back to the start line and record their number with chalk. Then, they would run back to select a second number, record it, and perform a mathematics equation based on the leader's choice.

Relatedly, this sense of community capacity, belonging, and expression of choices was also evident in the youth's survey responses. As represented through the previous tables and multimodal imagery, the pre-test scores regarding session belonging and expression of choices was higher for the program, 3.5 and 3.75 respectively, as opposed to 3.25 and 2 in school. As for post-test responses, expression of choices remained a 2 for school and increased to a 4 within the program sessions. Finally, youth demonstrated time on task as noted in our TPSR field notes and checklist, meaning they were actively engaging in the tasks at hand. Ultimately, we are enthusiastic about the novel capacity of this study's data sources in terms of this multifaceted and reciprocal evidence from both qualitative and quantitative results related to our youth's self-efficacy in multiple areas.

DISCUSSION

By integrating TPSR and CRP into a multimodal afterschool physical activity program, this research investigates whether youth experience increased confidence in academic settings, stronger peer relationships, and greater sense of agency in both school and program environments. The program's emphasis on literacy, physical activity, and values-based learning provides a unique opportunity to explore how physical education and cultural responsiveness

can enhance students' development beyond traditional classroom teaching methods. Since TPSR emphasizes transference of skills from physical activity to other life settings, we feel strongly that the exploration of self-efficacy as a complimentary theory for TPSR programming is both timely and pertinent. Likewise, integrating multiple frameworks for pedagogy and literacies demonstrates how CRP appropriately aligns with TPSR; this effectively connects sociocultural perspectives to an academically based program model that supports physical youth development and multimodal literacy practices.

Through this round of data collection for our program, we wanted to emphasize and evaluate participants' progress and growth related to physical activity through valid measures. We build on prior research that illustrates the symbiotic relationship and benefits of physical and academic literacies along with the value of holistic development for youth in these capacities. Physical assessments have been commonly used and associated with academic performance. Motor ability has been associated with cardiorespiratory capacity and associated with academic performance (Esteban-Cornejo et al., 2014). There is strong evidence that physical activity interventions benefit youth's mathematic performance (Singh, et al., 2017). Similarly, the youth in our program showed increased motor skills and aerobic capacity alongside an increase in their self-efficacy related to academic skills. Participants' responses on the self-efficacy scale likewise illustrate an increase in their perceived abilities.

Our program shows evidence of significantly promoting the four key tenets self-efficacy—mastery experiences, vicarious experiences, verbal persuasion, and physiological states (Bandura, 1997). Due to the small group size, one-on-one attention contributed to mastery experiences in academic literacies. Vicarious experiences were also woven into the program as youth took turns engaging in different activities and group work allowed for youth to see one another succeed. Thirdly, verbal persuasion (or positive encouragement) was documented and frequently used by leaders and youth participants. This tenet of self-efficacy is similarly supported by both CRP and TPSR practitioners who believe every child can succeed. Lastly, though physiological states were not always purposefully incorporated, journaling and informal check-ins with youth provided opportunities for youth to articulate and question the best parts of their days and challenges they had overcome.

Since physiological states and vicarious experiences influence the relationship between autonomous motivation and academic achievement (Basileo et al., 2024), we also sought to support autonomy and competence as positively associated with self-efficacy. This in turn mediated the link between motivation and academic outcomes for our youth as in other studies. However, we continue to seek out viable ways to explore and discover how and whether these patterns hold true in interdisciplinary ways with multimodal literacy practices alongside physical activity.

Limitations and Future Directions

While we saw progress in youth's self-efficacy in our program through multiple literacies, engagement in other tutoring services, outside sport activities, and physical education may be confounding factors impacting the present study's findings. Incorporating youth's standardized results and more detailed knowledge of other services youth receive would assist with evaluating our program's impact on youth's development versus other services. Additionally, youth's effort and perceived significance of physical assessments were sometimes questioned; this was reported as a limitation of a similar program (Marttinen et al., 2021).

As previously stated, one consistent area of the program that needs to be strengthened is recruitment and communication with guardians. Guardians are provided with a calendar and weekly emails; however, miscommunication was a reason for limited post-test evaluations. The utilization of in-person recruitment methods might increase participation attendance and interest. Additionally, the variety in participants' grade-level required on-the-spot adaptations to the activities to ensure the program remained appropriate for each participant's grade-level.

The exploration of self-determination theory, as well as basic psychological needs, may help illuminate connections in our program between autonomy, relatedness, and competence. Within the models of CRP and TPSR, the promotion of relationships, "voices and choices," "feeling support," and "feeling competent" are traditionally present. It would be helpful to understand aspects of self-determination with the program specifically, if and how internal versus external motivation affects participants in the program. Additional areas of concern include power dynamics of relationships among peers and between the participants and program leaders. Since CRP and TPSR both seek to prioritize and promote relationships, acknowledging the existence and implications of power between and amongst participants and program leaders may be worth investigation, especially as this relates to comparison and transference to academic and school contexts.

This study contributes to our findings supporting the combined use of TPSR and CRP in physical activity-based programs. Additionally, the transference of self-efficacy in multiple domains may be associated with TPSR and CRP when integrated and implemented appropriately. By identifying which strategies are most effective in building academic motivation and positive social behavior, we hope to inform the use of TPSR and CRP in educational settings to further promote holistic student development. Teachers and leaders in before/after school activity programs and sport instructors/coaches can incorporate TPSR and CPR in their practices by following the TPSR framework, integrating the responsibility levels and daily format, and

believing all youth can succeed. All of these stakeholders can likewise embody the essence of culturally responsive leaders by building relationships, engaging in cultural reciprocity, and addressing or discussing contemporary issues that may trouble the youth.

CONCLUSION

Our program uniquely and intentionally emphasizes the link between multiple modes of representation in youth's social, emotional, academic, and physical development. Notably, our findings illustrate the dynamic, combined impact of prioritizing these various facets along with the need for consistency, community, and flexibility in youth development. The age-old aphorism that "it takes a village to raise a child" is affirmed through our program as we continually recognize the vital roles of partnerships and commitment in sustaining different levels and definitions of "community." Our goal is for youth to thrive and demonstrate true resilience in diverse spaces; we believe this occurs through inspiring self-confidence and facilitating connections between their identities, interactions, cultures, and content areas. In other words, our role is to support them through the interwoven, meaningful complexities of growing, participating, and communicating in their lives. By nurturing these shared experiences and knowledge, they can be encouraged and empowered to overcome, progress, and achieve in their literacy, health, and learning.

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