



Social Skill Transfer from a Sport-Based Positive Youth Development Program to the School Setting

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The present study examined the development of self-control skills at one sport-based positive youth development (PYD) camp and the transfer of self-control skills to the school context. Specifically, the degree of transfer and the influence of contextual and personal factors on transfer were both explored. The sample included 176 who participated in the 2017 LiFEsports camp and then returned in 2018. Significant ($p < .05$) increases in self-control from the beginning ($M = 3.56$) to the end of the 2017 camp ($M = 3.77$) were found. Survey responses in 2018 found that 91 percent reported using self-control at school during the academic year post-camp participation. Open-ended responses revealed youths' application of self-control at school to avoid problematic confrontations (e.g., walking away from a fight) and approach academics (e.g., working quietly by oneself). The frequency of self-control transfer to school was significantly predicted by a set of contextual and personal factors, ($R^2 = .48$) including reflection on learning, personal importance, perceived autonomy, confidence in transferring self-control, and peers value of their use of self-control at school. Results suggest youth participating in sport-based PYD programs report transfer of self-control to school and point to important contextual and personal processes affecting life skills transfer.

Keywords: sport-based positive youth development, youth sport, life skill transfer, self-control, school, social skills

Social workers and other helping professionals often highlight the power of sport for increasing protective factors and decreasing risk factors among socially vulnerable youth (Anderson-Butcher & Bates, 2021). Often positive youth development (PYD) interventions focus on improving life skills, or the intrapersonal and interpersonal skills that enable youth to manage challenges of everyday life (Danish et al., 2005). As approximately 20 percent of youth lack age-appropriate life and social skills (Blumberg et al., 2008), the intentional integration of life skill development and transfer into youth programming becomes a social imperative. Programs serving youth from socially vulnerable backgrounds are especially important given lack of supports and limited access to resources, both of which may contribute to limited life skill development and other personal and social risk factors (Hermens et al., 2017; Super et al., 2018).

Sport is one setting where life skills can be developed (Gould & Carson, 2008). When sport is integrated with PYD practices, sport-based PYD programs have the potential to foster both the development and transfer of life skills (Anderson-Butcher et al., 2014, 2018; Eime et al., 2013; Gould & Carson, 2008; Bean et al., 2016; Jacobs & Wright, 2019; Lubans et al., 2012; Newman, 2020a). Scholars agree that sport-based PYD is even more critical for those from diverse backgrounds given research suggests these youth gain most from their participation (Anderson-Butcher et al., 2014, 2018; Hermens et al., 2017; Newman et al., 2018). As such, researchers have begun to distill the factors contributing to sport-based PYD, as well as life skill development and transfer in sport. From a programmatic perspective, features related to program climate, sport type and setting, quality of relationships, and curriculum usage are often believed to be most pertinent for life skill development (Anderson-Butcher et al., 2014; Bean et al., 2016; Camiré et al., 2012; Lower-Hoppe et al., 2020; Newman & Anderson-Butcher, 2021). Assessing and mapping out the developmental process of life skill transfer and the long-term impact of sport-based PYD programs has proven to be more complicated (Holt et al., 2017). To address this challenge, this study examined the development of self-control skills at one sport-based PYD camp and transfer of self-control skills to the school context.

Literature Review and Conceptual Framework

Life skill transfer is defined as the process where an individual “internalizes a personal asset in sport and then experiences personal change through the application of the asset in one or more life domains” (Pierce et al., 2017, p. 194). Research on life skill transfer in sport has predominately focused on outcomes (i.e., successful application of the asset) more so than the factors contributing (i.e., personal factors such as motivation; contextual factors such as social support) to the development and transfer of life skills (e.g., Anderson-Butcher et al., 2018; Gould & Carson, 2008; Weiss et al., 2016). Using a qualitative lens, researchers have primarily interviewed youth post-participation to examine the degree to which they report the outcomes of life skills being transferred outside of sport (e.g., Pierce et al., 2016; Newman & Anderson-Butcher, 2021). In these studies, youth report believing the life skills learned in sport can be transferred and applied in other social settings such as at home, other sports, video games, church, and school (Bean et al., 2016; Camiré et al., 2012; Newman, 2020). Some quantitative research also has examined life skill transfer outcomes. For instance, Weiss and colleagues (2016) found that youth who participated in a golf-based PYD program used life skills in different areas of their lives and displayed greater life skill transfer than youth who participated in other activities.

Providing a heuristic understanding of the factors influencing the life skills transfer process, the *Life Skills Transfer Model* (Pierce et al., 2017) posits that autobiographical experiences (e.g., lived experiences), internal assets or personal factors (e.g., confidence, motivation); and external assets or contextual factors (e.g., staffing, adult support) interact continuously to help or hinder skill application. The propositions of this model have received recent empirical attention with studies examining life skill transfer from sport to the school setting, one of the most socially valid contexts for youth. For instance, Pierce et al. (2019) focused on teacher-coach perceptions of how youth transfer life skills from high school sport to the classroom. Teacher-coaches made the distinction that personal (e.g., intrinsic motivation to learn) and contextual factors (e.g., teacher support) facilitate the transfer of life skills from sport to the classroom, while other personal (e.g., lack of confidence to transfer) and contextual factors (e.g., lack of support from teachers) hinder the transfer of life skills from sport to the classroom. Martin et al. (2021), more recently, created an intervention with a high school teacher-coach to facilitate student-athlete life skills transfer from sport to the classroom. The action research approach allowed the teacher-coach to influence both contextual (e.g., increase opportunities to use skills) and psychological factors (e.g., increase skill awareness) to support life skills development and transfer.

The model also has been used as a guiding framework for qualitative studies that have examined youth perspectives of life skills transfer. For instance, Bean et al. (2020) found that youth hockey and volleyball players believed confidence and awareness of transfer possibilities were important personal factors, while coach support and contextual similarities (e.g., group tasks in school and sport) were factors in the environment that facilitated transfer. Newman and Anderson (2021) used the *Life Skills Transfer Model* as a framework and photo-elicitation methods to understand how and why socially vulnerable youth involved in a sport-based PYD program transfer life skills. Findings demonstrate the role of psychological processes in life skill transfer and showcase the importance of context similarity during transfer. Further, Pierce et al. (2020) explored high school student-athlete perceptions of leadership as a life skill, identifying experiences of personal and contextual factors interacting to support the transfer of leadership from sport to the classroom. For example, increased awareness of leadership capabilities helped youth identify opportunities to transfer leadership; and greater support from coaches and teachers for transferring leadership helped to enhance self-expectations for leading across contexts.

Although these recent studies help to illuminate the factors influencing life skill development and transfer, limitations and knowledge gaps still exist. Perspectives of teachers and coaches are limited in that they do not necessarily represent the lived experiences of the youth as the active producer of their own development (Larson, 2000; Pierce et al., 2020), and retrospective interviews with youth participants provide only static, and possibly distorted depictions of life skill learning and transfer (Kendellen & Camiré, 2020). There also is a need for more rigorous studies to explore predictors of transfer and examine how life skills learned in sport and sport-based PYD can be used to target school climate and related outcomes as an effort to strengthen healthy development and influence systemic change in the community (Anderson-Butcher & Bates, 2021). For these reasons, longitudinal research following youth through both life skill development and life skill transfer experiences over time is needed, especially studies examining the factors youth attribute as the reasons for life skill transfer (Anderson-Butcher et al., 2018; Kendellen & Camiré, 2020).

Research Context: LiFEsports

To effectively examine life skills in sport, learning and transfer should be viewed as interconnected developmental processes where the analytic spot-light in on both learning in the sport context *and* application in a different domain (Kendellen & Camiré, 2020; Pierce et al., 2017). For this reason, the present study was conducted in a context that has been systematically designed to promote life skill development and transfer among socially vulnerable youth. LiFEsports (www.osulifesports.org) is a university-based program designed to foster social competence through sport. Each year LiFEsports serves over 600 youth aged 9-15 through its four-week summer day camp. Participants, primarily African-American urban youth living at or below the federal poverty level, are provided the camp free of cost, as well as receive free transportation to/from camp and daily breakfast and lunch. At LiFEsports, youth receive 5 hours of instruction in 9 different sport activities (e.g., basketball, football, lacrosse, soccer), and engage in 15 hours of play-based social skill instruction called *Chalk Talk*. All activities promote the development of four key life skills related to social competence: Self-Control, Effort, Teamwork, and Social Responsibility (S.E.T.S.).

Overtime, evidence has grown related to the value of LiFEsports toward PYD. Most research on LiFEsports has examined life skill development over the course of the program, consistently demonstrating improvements in S.E.T.S. after participating in the program (e.g., Anderson-Butcher et al., 2014, 2018; McDonough et al., 2013; Riley et al., 2017). Initial studies specifically found significant group-level differences in perceptions of S.E.T.S., especially among youth who entered the program with the poorest social skills compared to their peers (e.g., Anderson-Butcher et al., 2014; 2018). LiFEsports research then continued investigating other key factors such as a sense of belonging (e.g., Anderson-Butcher et al., 2014; McDonough et al., 2013), feedback and support from adults (e.g., Anderson-Butcher et al., 2019; 2021; Newman et al., 2018; Riley et al., 2017), behavioral incentives as token economies (Anderson-Butcher et al., 2021), positive counselor-youth relationships (e.g., Anderson-Butcher et al., 2019; McDonough et al., 2013; Newman et al., 2020a; Riley et al., 2017), opportunities for positive and diverse peer-interactions (e.g., McDonough et al., 2013; Lower-Hoppe et al., 2021), implementation fidelity and quality instruction (e.g., Lower-Hoppe et al., 2020; 2021), and the exposure of youth to new, safe experiences and environments (e.g., Kimiecik et al., 2021; Lower-Hoppe et al., 2020; Riley & Anderson-Butcher, 2012).

The evolution of LiFEsports evaluative research has followed a similar trajectory to that of the wider life skills development and transfer literature. Until recently, a majority of studies have explored life skill development and factors contributing to PYD, with less examining life skill transfer from the program to other settings. Two recent qualitative studies have explored the factors that contribute to life skill development and transfer among socially vulnerable youth. For example, Newman (2020) illustrated that youth transferred life skills that were both explicitly taught by the program (e.g., S.E.T.S.) and others not intentionally taught (e.g., grit, communication, respect) to other areas such as home, church, other sports, and school. While this qualitative research has just recently found that youth transfer skills learned in LiFEsports to school settings (Newman, 2020; Newman & Anderson-Butcher, 2021), an examination of the long-term transfer outcomes and the factors influencing contributing transfer for a greater sample of campers is warranted.

Purpose of this Study

As the foundation of the LiFEsports S.E.T.S., self-control skills involving the ability to regulate one's emotions and self-manage behaviors (Gresham & Elliott, 1990) were the focus on this study. Specifically, we examined the development of self-control skills at the LiFEsports camp and transfer of self-control skills to the school context using a mixed-methods approach. This study, first, examined the degree to which participants learned self-control skills in the LiFEsports program and transferred self-control skills to school during the year after participation. Second, the study uses the *Life Skills Transfer Model* (Pierce et al., 2017) to examine the influence of personal factors (perceived importance, autonomy, confidence, awareness of transfer possibilities, and reflection on learning) and contextual factors (perceived importance from adults and peers, and positive feedback from adults and peers) and their influence on the transfer of self-control from the LiFEsports context to the school context.

Methods

Research Design

The degree of camp participants development of self-control and transfer of these skills to school was examined using an exploratory sequential design with a QUANT-qual relative emphasis (Morgan, 1998). Specifically, this mixed methods study commenced with a post-positivist (QUANT) worldview to examine the degree of life skill development and transfer and specific factors involved in the developmental process and moved toward a naturalistic (qual) worldview to explore lived experiences of self-control transfer (Cresswell & Plano Clark, 2011).

Participants and Procedure

This study included the 176 youth who participated in the 2017 LiFEsports camp and then returned to the camp in 2018. This represented 40.65 percent of the campers from 2017 who were eligible to return. During registration for LiFEsports in 2017, parents/caregivers of youth were provided information regarding the study's purpose and asked to provide consent for their child's participation. Participation in the study was voluntary and was not a requirement for program registration. Youth completed a battery of instruments on the last day of camp in 2017 and on the first day of camp in 2018. This sample included 110 males (63.1%) and 65 females (36.9%), with a mean age of 11.75 ($SD = 1.33$) years. The participants included 148 African American youth (84.7%), 10 Multi-racial youth (i.e., identification of two or more options; 5.7%), five African youth (2.8), two White Caucasian youth (1.1%); and two Asian or Pacific Islander youth (1.1%). The remaining participants did not report race/ethnicity. The majority of youth were considered low-income, with 102 participants (58.5%) reporting the receipt of free or reduced lunch. The instrument and measures described below reflect only those specific to the research questions of this current study. All methods were approved by the researchers' Institutional Review Board.

Instrument

Learning Self-Control in the LiFEsports Camp

In the 2017 survey, participants completed the Perceived Self-Control Scale (Anderson-Butcher, Amorose, Newman, & Lower, 2016) at the beginning and end of the LiFEsports camp. This scale measures the degree to which youth perceive their ability to control and manage their reactions and emotions. The scale consists of 8 items and measured on a 5-point Likert scale (1 = Not at all true and 5 = Really true). An example item on the Perceived Self-Control Scale is “I am good at controlling my emotions.” Scores on this measure have demonstrated adequate reliability and validity in past research with youth (see Anderson-Butcher et al., 2016). The internal consistency estimates on the measure used in current study were acceptable ($\alpha=.88$ at pre-test; $\alpha=.92$ at post-test).

Transferring Self-Control to School

In the 2018 survey, participants were asked to respond to the questions, “How often were you able to show self-control while you were at SCHOOL this past year?” Response options were scored on a 5-point Likert-type scale, ranging from not often at all to very often, with higher scores reflecting a greater frequency of self-control transfer in the school setting. The campers also were asked to “think of a time over the past year where you used self-control in a situation at school” and to describe what happen using an open-ended response format.

Predictors of Self-Control Transfer

Personal Factors. The 2018 survey also included single-item questions developed specifically for this study assessing various factors identified in Pierce et al.’s (2017) model as potential predictors of life skill transfer. Specifically, items tapped personal predictors of self-control usage at school, including: the importance they placed on using self-control (“It is important to me that I show self-control at school”), their autonomy for using self-control (“I show self-control at school because I want to not because I have to”), and their confidence (“I am confident that I can show self-control when I am at school”). Participants were also asked to reflect on what they learned at LiFEsports by answering the question: “When I am at school, I remember what I learned from LiFEsports camp about self-control.” All these questions used a 5-point Likert-Type response format, ranging from not at all true (1) to really true (5).

Contextual Factors. Items also tapped contextual predictors identified in Pierce et al.’s (2017) model, including: the importance that adults and peers place on them exerting self-control at school (“It is important to adults (teachers) that I show self-control at school” and “It is important to my friends that I show self-control at school”), and the degree of positive feedback their others give them for exerting self-control (“Adults (teachers) give me positive feedback when I show self-control at school” and “My friends give me positive feedback when I show self-control at school”). All these questions used a 5-point Likert-Type response format, ranging from not at all true (1) to really true (5).

Data Analysis

Descriptive Statistics

To examine the first purpose of the study, the degree to which camp participants learned and transferred self-control skills to school during the year after participation, two steps were taken. First, paired t-tests were used to explore changes in self-control from the beginning to end of camp in 2017. Then the percent of youth reporting at the beginning of the 2018 camp that they used self-control at school during the past year was examined. Second, descriptive statistics on the frequency of self-control transfer.

Categorical Content Analysis

To understand participant experiences of self-control transfer, a categorical content analysis was conducted. The open-ended question was analyzed using a post-positivist approach to, initially, deductively categorize each response based on four interpretive criteria: (1) Extent of transfer; (2) degree of reflection; (3) situations and contexts of transfer; and (4) valence of transfer. Extent of transfer assessed whether (or not) the response qualified as life skills transfer, based on the definition of “experiencing personal change through the application of self-control beyond the context where it was originally learning” (i.e., the school context; Pierce et al., 2017, p. 194). The degree of self-reflection was based on Mezirow’s (1991) model of reflective thinking, each journal was scored on its degree of self-reflection using a criteria of: non-reflective; reflective; or critical reflection. “Non-reflective” responses included examples describing habitual actions, a select review of prior learning and contained no evidence of reflective thinking. “Reflective” responses contained sufficient and descriptive examples as well as an application of self-control and additional ways to interpret the experience. “Critical reflection” journal responses incorporated in-depth examples, superior application of self-control, and displayed a transformation of the meaning of the experience. Each response was assessed in relation to the situation and contexts of transfer, identified as either social, academic, or other school-based interactions. Finally, following the initial review of each response on the degree of transfer, reflection, and situations, differences were inductively identified related to how self-control transfer was being described and defined. For this reason, the valence of transfer criteria was created. Each response was categorized based on the description of transferring self-control, referring to negative situations where youth used self-control to avoid confrontation or problems and positive situations where youth used self-control to approach success.

The coding related to the degree of self-reflection was performed by two primary coders. Each coder reviewed the open-ended responses and categorized each response using the rubric described above. Then, in line with the post-positivist approach, the two coders reviewed the categorizations/scores to establish inter-rater reliability. Inter-rater reliability between the two coders was assessed throughout the study using adjacent percent agreement, meaning the degree to which independent scores were agreeable (Murrah, Kosovich & Hulleman, 2016). Scores from both coders were compared to ensure there was at least 80 percent agreement among the scores. In all case of disagreements, coders reviewed and discussed the scores until an agreement was reached.

Multiple Regression Analysis

To explore the second purpose of the study, examining the influence of contextual and personal factors on transfer, a multiple regression analysis was conducted using Version 23 of

the Statistical Package for the Social Sciences (SPSS). Frequency of using self-control at school over the year was regressed on the contextual factors (adult importance, adult feedback, peer importance, peer feedback), personal factors (importance, autonomy, confidence) and reflections on what they learned at *LiFEsports*.

Results

Degree of Self-Control Learning and Transfer

First the study examined the degree to which camp participants learned self-control skills in the camp and transferred self-control skills to school during the year after participation. The findings below present the extent of self-control learning and transfer, variations in the context and situations where self-control was transferred, and identification of differences in the affective quality or valence of self-control transfer.

Extent of Self-Control Learning and Transfer

A total of 125 youth completed the Perceived Self-Control Scale at the beginning and end of the *LiFEsports* camp in 2017. A paired *t*-test showed that there was a small (Cohen's $d = .24$) yet significant ($p < .05$) increase in self-control from the beginning ($M = 3.56$, $SD = .92$) to the end of camp. When asked at the beginning of the 2018 camp how often they were able to show self-control while you were at school this past year, youth reported using self-control at school frequently. In fact, 37.5 percent indicated they used self-control "often," and 90.9 percent reported using self-control "sometimes," "pretty often," or "often." Of the 164 responses to the open-ended question, 131 of participants (79.9%) depicted clear experiences and evidence of self-control transfer. Collectively, these examples provide evidence of self-control transfer as personal development through the application of the skill in the school context (i.e., new approaches to avoiding altercations out of sport). For example, one youth reported that "somebody was talking 'that talk' and I wanted to slap them, but I used self-control to avoid that," while another stated, "at school a boy stepped on my group member and his project. Instead of flipping out on him, I just asked him if he could please walk away."

When examining the degree of reflection in the youth responses, the majority of participants provided clear reflections on their experiences of self-control transfer, with 29 examples being classified as reflective (17.7%) and 102 examples classified as critically reflective (62.2%). These findings indicated that most youth were able to describe self-control transfer with specificity and depth and links to the developmental outcomes.

Situations and Contexts of Self-Control Transfer

The majority of participants ($n = 104$; 63.4%) described examples of applying the self-control skills in social interactions or altercations with friends, peers, or teachers in the school setting. For example, one youth stated:

My friends and I were playing a game and a lot of people came over and started playing but this girl I was arguing with came with the group so me and my friends left so it wouldn't be a fight.

Self-control skills also were transferred in the classroom ($n = 12$; 7.3%) in response to situations of academic performance challenges (e.g., “I got almost straight A's and I got a little frustrated at myself but I stayed calm and didn't do anything”), teacher-student relationships (e.g., “my teacher pushed me, I didn't hit them but I went to the office”), and classroom dynamics (e.g., “my math teacher left the room and said be quiet everybody was talking, but I was doing my work”). Finally, youth described transferring self-control while participating in every-day interactions (e.g., walking in the hallway) or extra-curricular activities (e.g., physical education games and activities) at school ($n = 17$; 10.4%).

Valence of Self-Control Transfer

Examples of self-control transfer were identified that represented skill application in negative situations to help them avoid problems, or positive situations to help them approach success. A total of 111 examples (67.7%) focused on negative situations where youth transferred self-control skills to avoid confrontation or personal problems. Participants described physical and verbal altercations with peers and friends as the most common situation to apply the self-control skills learned from the LiFEsports camp. Physical altercations were directly mentioned in 40 responses, with youth describing how they controlled their response to physical abuse or harassment. One girl stated, “one time a girl kicked me for no reason. I was about to hit her back, but I just told the teacher” while a male youth reflected, “I showed self-control when a guy pushed me and I walked away.” Verbal altercations were directly identified in 22 responses. One student stated, “at school other kids were calling me fat and ugly. I got really mad at them but used self-control and walked away I used what they said and tried to make myself better.” When these confrontations and altercations were described, youth explained or implied that applying self-control skills helped them avoid getting into trouble from others for fighting or being physically or psychologically harmed from the incident. The specific application of self-control skills referred to “walking away” or physically removing oneself from the situations, as highlighted in the following quote, “somebody was talking that talk and I wanted to slap them, but I used self-control to avoid that.” Finally, some youth described their reflection and application of self-control skills as purposeful to remain calm to avoid the potentially negative situation. For example, “I have used self-control in a situation at school when a girl keeps messing with me and I calmed myself down because I know now my temper can get.”

A smaller number of participants ($n = 19$; 11.6%) described situations where they transferred self-control skills in positive situations to help them approach success. For example, participants applied self-control in a test-taking situation, “when we had a math test and I got the hardest test I told my teacher I couldn't do, but I remained calm and gave it my best shot.”

Factors Influencing Self-Control Transfer

Table 1 presents the basic descriptive statistics of the study variables. The mean scores on all variables were above the scale midpoints, suggesting that the youth believed others supported their use of self-control at school as well as thought it was personally important, within their control, and were confident in their ability to do so. Table 1 also shows the bivariate correlations among the study variables. All the contextual and personal factors as well as the reflection of learning at LiFEsports were positively and significantly ($p < .01$) related to the frequency in which the youth reported using self-control at school the year following camp.

Table 1*Descriptive Statistics and Correlations Between Study Variables*

Variable	1	2	3	4	5	6	7	8	9
Personal Factors									
1. Frequency of self-control at school	--								
2. Importance	.56	--							
3. Autonomy	.55	.66	--						
4. Confidence	.51	.56	.42	--					
5. Reflecting on LIFE <i>sports</i> learning	.47	.34	.35	.43	--				
Contextual Factors									
6. Adult importance	.47	.57	.50	.57	.39	--			
7. Peer importance	.47	.41	.44	.39	.42	.43	--		
8. Adult feedback	.35	.42	.43	.45	.48	.42	.47	--	
9. Peer feedback	.38	.31	.53	.33	.48	.32	.61	.56	--
Mean	3.90	4.23	3.96	3.99	3.83	4.31	4.05	3.95	3.72
SD	1.07	.94	1.07	1.04	1.16	.85	1.05	1.10	1.30

Notes. All correlations significant at $p < .01$. Variables scores range from 1-5.

Table 2 presents a summary of the regression analysis used to predict the transfer of self-control at school. Overall, the set of variables significantly predicted the use of self-control, $F(8, 175) = 19.15, p < .01$, accounting for 48 percent of the variation in the self-control scores ($R^2 = .48$). All three of the personal factors were significant positive predictors of self-control at school, as was the youth's reflections of learning at LIFE*sports*. Of the contextual factors, however, only peer importance of self-control was a significant predictor. Based on the squared semi-partial correlations, the predictor explaining the highest amount of unique variance was reflections on what the campers learned about self-control at LIFE*sports* followed by autonomy. It should be noted, though, that the majority of the variance explained was a result of the shared set of predictors (27% of the total 48%).

Table 2*Summary of Regression Analysis Predicting Frequency of Self-Control at School*

Predictor	<i>B</i>	<i>p</i> =	<i>sr</i> ²
Personal Factors			

Importance	.18	.04	.03
Autonomy	.25	.00	.05
Confidence	.18	.02	.03
Reflection on LiFEsports learning	.22	.00	.06
Contextual Factors			
Adult importance	.03	.71	.00
Peer importance	.17	.02	.03
Adult feedback	-.09	.23	.01
Peer feedback	-.05	.58	.00

Note. Overall regression results, $F(8, 175) = 19.15$, $p < .01$, $R^2 = .48$. sr^2 = squared semi-partial correlation.

Discussion

Research has explored the ability for sport-based PYD programs to promote life skill development and transfer (e.g., Anderson-Butcher et al., 2018; Newman et al., 2020a). The current study employed a longitudinal, mixed-methods approach to examine life skill development and transfer as interconnected processes; and was the first study, to our knowledge, to quantitatively examine the heuristic model of life skill development and transfer, as well as explore contextual and psychological processes related to life skill transfer. First and foremost, the findings lend specific support for the effectiveness of LiFEsports to successfully promote the transfer of self-control to other settings outside the program (see also Anderson-Butcher et al., 2018), and general support for the notion that youth sport participants can transfer life skills from sport to other contexts (e.g., Bean et al., 2016). The longitudinal quantitative findings show that youth, who were found to learn self-control in the LiFEsports summer camp, believed that they were able to transfer and apply the skill in the school context in the year following the camp. In doing so, they affirmed that self-control was a life skill that they perceived as important and within their control and abilities. In addition, the ability of participants to critically reflect helped to reveal clear examples of using self-control at school within social interactions with friends, peers, and teachers during academic performances (e.g., assignments, grades, group activities) in the hallway and the classroom, and corroborated quantitative results of frequent self-control use and successful transfer to school.

A novel contribution of this study was the quantitative examination of contextual and personal factors influencing the transfer of self-control from the sport camp to the school setting. In recent years, researchers have recognized the interactive nature of these contextual and youth psychological factors influencing life skills transfer, with studies predominately employing qualitative approaches to represent such factors through thematic (e.g., Bean et al., 2020; Pierce et al; 2020) and narrative analyses (e.g., Kendellen & Camire, 2018). This study provided a unique quantitative examination of the factors presented in the heuristic *Life Skills Transfer Model* (Pierce et al., 2017) across a larger sample of PYD program participants. This study found that conscious reflection on the LiFEsports camp, a range of personal factors (i.e., importance of self-control, autonomy to use self-control, confidence to use self-control) and one contextual factor (i.e., peer importance) predicted self-control transfer at school. In fact, the personal factors were more predictive of self-control transfer to school than peer importance. These findings support previously studied perceptions of youth athletes who emphasized the importance of

awareness (i.e., reflection on learning) and confidence for transfer (Bean et al., 2020; Martin et al., 2021; Pierce et al., 2020), but do not go as far to reinforce adult support and feedback (e.g., coaches) as a facilitator of transfer (Bean et al., 2020; Pierce et al., 2020). These findings emphasize the particularly important role of the individual learner and their conscious psychological processes as the driver of life skill transfer (Pierce et al., 2017). That is, for a life skill to be transferred from sport to school, reflection on skill learning, feeling autonomous in skill application, valuing the skill, and having confidence to use the skill may be more important than external support in the transfer contexts (e.g., from teachers in school).

Based on the general elements of the heuristic models (Pierce et al., 2017) and recent research (Bean et al., 2020), we hypothesized support from significant others (i.e., adults, peers) would be significant predictors of self-control transfer. Peer importance, however, was the only contextual factor to significantly predict self-control transfer to school. These results are supported by other recent research. For instance, Newman and Anderson-Butcher (2021) previously found that peers were influential for life skill transfer, but not life skill development. The current findings lend further support for the role of peers in the process of life skills transfer and highlight friends, teammates, and classmates as a population whose roles are often overlooked in conceptions of life skills development and transfer (cf., Bean et al., 2018; Pierce et al., 2017) and understudied in sport-based PYD research (Lower-Loppe et al., 2021).

In this study, peer importance may have been symbolic of the perceived norms among peers at school. The findings suggest that youth may have been more likely to apply self-control in a confrontational situation in the classroom or schoolyard if they perceived that their friends/peers believed self-control was important. The idea that youth utilize skills and align their behaviors to conform to what their peers' value, aligns with the proposed influence of peers in models of social development. Specifically, Hawkins and Weis (1985) suggest that bonds to peers, whether prosocial or delinquent, will develop to the extent that youths have opportunities for involvement with those peers. Subsequently, youth will use and apply skills to perform as expected by their peers with rewards forthcoming from interactions and actions that are valued by peers. For youth in this study, in addition to their personal agency, the desire to fit in with peers and follow the rules may have fueled the application of self-control at school.

Participants reported lower levels of peer feedback than all other variables, and the factor was not found to significantly predict self-control transfer. In this case, youth may have interpreted feedback to only include explicit forms of verbal feedback, which youth may not be sharing with each other often. Indeed, peer nonverbal feedback (i.e., body language), which may have been captured by the peer importance variable, may be more common than peer verbal feedback, and may be more significant when predicting self-control transfer. Peer feedback, though, may simply not be an important variable influencing self-control transfer to schools. Nonetheless, findings from this study provide further support for the role of peers in facilitating life skill transfer and highlight an important avenue for future research.

Although youth did report scores above the item mid-points for adult importance and adult feedback, these variables did not significantly predict self-control transfer. These findings are surprising and contradict previous research which indicated that parents/caregivers and friends were influential figures in life skill transfer (Newman & Anderson-Butcher, 2020). These findings suggest that adult figures may pose greater influence during life skill development, whereas peers may be more influential during life skill transfer. Notably, adults in school (i.e., teachers) were not engaged in the *LiFEsports* program and therefore not primed to promote the congruence of messages between contexts (Jacobs & Wright, 2018). Perhaps, adult importance

and feedback would have been of greater significance if teachers promoted congruence by explicitly connecting youths' use of self-control to the learning context (i.e., *LiFEsports*) and making the similarities between the learning and transfer contexts (i.e., school) more apparent to learning and application. More direct methods of adult support may be more effective at promoting transfer than demonstrating importance and providing feedback, such as facilitating individual and group discussions about self-control transfer (e.g., Newman & Anderson-Butcher, 2021) and providing concrete opportunities for self-control application (e.g., Allen et al., 2015).

Furthermore, these findings must be interpreted with the sample demographics in mind. The present study assesses the applicability of the heuristic model with a sample of mostly African American boys living below the federal poverty line. Although this is not a representative sample of all youth who engage in sport, findings suggest the heuristic model can be applied to those who experience marginalization. Results extend upon prior qualitative examinations that also have supported use of the *Life Skills Transfer Model* to encourage the transfer of S.E.T.S. to other settings outside sport (Newman, 2020; Newman & Anderson-Butcher, 2021). Indeed, the model provides a framework to increase the protective factors and decrease risk factors among socially vulnerable youth who may need programs such as *LiFEsports* the most. Further examinations are needed to understand the influence of sociocultural differences on the efficacy of the *Life Skills Transfer Model*.

Practical Implications

Sport-based PYD is important to address social inequities that make some youth vulnerable to various problem behaviors, yet practitioners should not merely assume that prosocial behaviors will be repeated, and life skills consciously applied after youth leave their program. Results support the use of sport-based PYD to promote life skills, such as self-control, for vulnerable youth and highlight the need to deliberately align program goals, instruction, and youth experiences to promote and support both life skill development and transfer. Particular implications for promoting life skills transfer align with recent studies and recommendations (e.g., Bean et al., 2016; Bean et al., 2018; Hodge et al., 2013; Pierce et al., 2018). First, youth should be encouraged to continually reflect on their learning and application experiences through debriefing and journaling. Second, they should be provided with opportunities to practice self-control in both PYD and school settings and receive explicit instruction and feedback on how they can personally apply skills in and out of sport. These explicit life skill teaching approaches appear to be valuable to support the growth of perceived autonomy, confidence, and importance for using and transferring life skills. Third, as a novel finding from this study, youth should also be informed about their valuable role as a peer in supporting the personal development of others. They should be prompted to support their peers, communicate the importance of life skills transfer to their friends, teammates, and classmates, and be provided with opportunities to practice using and reflecting about life skills with their peers. Finally, program organizers should collaborate and communicate with individuals across the youths' lives (e.g., teachers, coaches, parents, peers) to support and reinforce life skill transfer across domains. Doing so, social workers and other helping professionals will be able to strengthen the design and delivery of other sport-based PYD programs.

Limitations & Future Directions

Although the present study provided a novel methodological contribution to the literature, certain limitations should be considered when drawing implications and conclusions. First, the present study examined the lived experiences of youth from one sport-based PYD program where youth and their families self-selected registering for the program. Relatedly, no control group was studied. This makes the findings from the present study less generalizable to other populations. Nonetheless, the present study involved diverse youth participants who have historically received little attention in sport research (e.g., Bejar et al., 2021). Another limitation pertains to the exploratory measures used. Specifically, adult and peer importance and feedback are more nuanced than the present study considered them. Additionally, adult importance and feedback could have been more specific and have youth reflect on teacher importance and feedback instead. The present study also only explored factors contributing to life skill transfer and not life skill development, an important step in life skill transfer. The ability of youths to recall learning self-control at *LiFEsports*, though, suggests youth acquired self-control skills at the program. Additionally, there were limitations in relation to how life skill transfer was measured. Future research should expand on these methods to provide a more comprehensive view of application to other social settings. Finally, the present study is limited in that it focused solely on self-control in a discrete and linear fashion, and no other life skill explicitly taught at *LiFEsports*. While we recognize that this narrow focus was unable to fully encompass the bi-directional (i.e., learning from school transferred to sport) and holistic nature of youth development through sport (i.e., learning multiple skills may contribute to transformational or existential change), findings still provide a unique and concentrated snapshot of life skill transfer as a key developmental process.

Future research, therefore, should consider engaging youth from multiple PYD sites and incorporate more rigorous experimental designs to study the factors of life skill transfer. To do so, measurement can and should be improved. In addition to validated scales such as the Life Skills in Sport (LSSS; Cronin & Allen, 2017) and the Life Skills Scale for Sport – Transfer Scale (LSSS-TS; Mossman et al., 2021) being utilized, researchers should also consider validating measures to examine the processes influencing life skills transfer. Researchers should also further examine adult and peer importance and feedback, along with other contextual factors outside of the sport context. Specifically, future research should examine adult and peer importance and feedback using different measurement techniques. Relatedly, other research is needed to further examine other personal factors and autobiographical experiences affecting life skill transfer. To do this, future research should not only consider studying the transfer of specific life skills and how these skills can be used to engage in prosocial acts and/or disengage from problem behaviors but explore youth sport experiences through transformational and/or existential learning lens.

This final suggestion builds off recent valuable critiques of the life skills research have highlighted the decontextualized, narrow focus on functional and teachable outcomes for youth in sport (Ronkainen et al., 2021). While the limited scope of learning in this study must be recognized (i.e., self-control as one positive developmental outcome), the interpretive findings of the youth experiences of self-control transfer do help to reveal the nuance of the developmental experiences of these youth. Specifically, findings suggest that youth perceive self-control to involve emotional regulation, yet emergent examples of self-control application possessed mostly negative valences. Youth, in other words, predominately recalled using self-control to avoid problems and confrontations rather than to approach success, often with the greater intention for decreasing retaliation. These findings highlight the contextualized nature of the

transfer of self-control and recognize that the value of subjective, affective lived experiences of youth as they develop over time. Perhaps the youth from socially vulnerable backgrounds in this study had less opportunities for prosocial engagement, as compared to youth from more privileged backgrounds (as suggested by Flett et al., 2012), and thereby may be more prone to use self-control to prevent engagement in problem behaviors than partake in prosocial ones. These findings, aligning with the primary aims of PYD (i.e., promoting positive outcomes and minimizing negative outcomes, Catalano et al., 2004), should be viewed as more than the decontextualized and disembodied movement of discrete skills across contexts. To continue to critically examine the role of sport-based PYD and youth sport programs, non-instrumental, existential conceptions of learning should be employed to complement this skill-focused understanding youth development through sport (Ronkainen et al., 2021).

Conclusions

The findings from the present study add to the growing body of literature supporting the use of explicitly designed sport-based PYD programs to facilitate the transfer of life skills to school settings. Specifically, youth, who had developed self-control in the LiFEsports camp, transferred the skill to avoid problems and approach success at school. The results continue to provide empirical evidence to consolidated heuristic propositions (e.g., Pierce et al., 2017) about the importance of personal factors (e.g., perceived autonomy) and contextual factors (e.g., peer importance) as key contributors to life skill transfer. As personal factors were stronger predictors of self-control transfer than contextual factors, sport-based PYD settings should provide opportunities for youth to use self-control to avoid certain confrontations and approach success and should then encourage youth to take agency in their own development by promoting reflection on the importance, use, and transfer of self-control in sport and other settings.

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