

## Original Research

## Examining the impact of a sport-based positive youth development program for adolescent girls of color: A mixed methods study

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### ABSTRACT

Adolescent girls of color experience systemic and interpersonal risk factors that intersect on the basis of their race, gender, and age. These risks negatively influence their rates of obesity, engagement in physical activity, and overall health and well-being. Sport-based positive youth development (PYD) programs are known to address risks and build protective factors, yet little is known about how these programs specifically impact adolescent girls of color. This mixed method study examines the impact of a sport-based PYD summer camp on the holistic health of adolescent girls of color. We conducted nine qualitative interviews and compared changes in mean scores on pre- and post-camp survey measures for 35 adolescent girls of color. In our findings, we identify underlying program mechanisms and design components that influenced girls' experiences, participation, and engagement. Further, we describe positive changes reported by girls in relation to their physical, social, psychological, and spiritual health and well-being. We also present an emergent theory of change to serve as a guide for how sport-based PYD programs can be leveraged to address intersectional health and well-being outcomes among adolescent girls of color.

### INTRODUCTION

Positive youth development (PYD) focuses on the inherent strengths and assets of young people (Catalano et al., 2002;

Larson et al., 2006). PYD settings and programs provide opportunities for adolescents to: (a) acquire and practice specific social, physical, and intellectual skills; (b) contribute to the well-being of one's community; (c) belong to a socially recognized and valued group; (d) establish supportive social networks of peers and adults; and (e) experience and cope with new challenges (Eccles et al., 2003). Given these benefits, researchers, practitioners, and educators advocate that PYD settings play an important role in supporting the holistic development of adolescents. One group in need of such support is adolescent girls of color, especially those living in underserved communities (Yancey et al., 2006).

Due to the overlapping effects of racism, sexism, ageism, and poverty, adolescent girls of color disproportionately experience greater individual, environmental, and structural risk factors compared to other adolescent girls (Morris, 2016). Theorists and scholars find an intersectionality framework useful when describing the experiences of girls of color living in poverty in relation to their various developmental outcomes. Intersectionality theorists assert that socially vulnerable adolescents do not experience factors such as race, class, age, and gender as independent characteristics, but rather attest that these factors have meaningful and interactional effects (Collins, 1990; Constantine et al., 2006; Crenshaw, 1993). For example, research shows girls experience academic and athletic sexism, and identifying as an adolescent of color intersects

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with experiences of systemic and interpersonal racism (Crenshaw, 1993; Leaper & Brown, 2008). Thus, adolescent girls of color experience overlapping factors that result in complex health and social inequalities.

Importantly, scholars note that the physical activity rates of adolescent girls of color are impacted by intersectional demographic (i.e., race, gender, age) and environmental (i.e., culture, beliefs, attitudes, and perceptions) factors. Adolescent girls of color are influenced by cultural norms and an acceptance of a fuller body size (Boyington et al., 2008), beliefs about hair maintenance derived from beauty standards for women of color (Woolford et al., 2016), experiences of hair harassment in schools (O'Brien-Richardson, 2019), and disparities in exposure during childhood to other women of color engaging in physical activity (Harley et al., 2009). This is but one example of the ways societal, cultural, and gender norms intersect to influence the overall health and well-being of girls of color during adolescence. Examples point to the need to intentionally create environments that affirm and acknowledge the unique experiences of adolescent girls of color.

We conducted a mixed method study of a sport-based PYD program designed to address the holistic health and well-being of adolescent girls of color. Our study was guided by two research questions: What, if any, program design components do adolescent girls of color perceive influence their health and well-being outcomes? How does participation in a sport-based PYD program impact the health and well-being (i.e., physical, social, psychological, and spiritual) of underserved adolescent girls of color? We further sought to develop and discuss a theory of change (ToC) of sport-based PYD intentionally designed and grounded in elements of intersectionality for adolescent girls of color. Our goal in introducing a ToC retrospectively was to guide practitioners, researchers, and sport coaches in designing culturally-affirming and evidence-based sport-based PYD programs that foster positive experiences for adolescent girls of color.

### Health and Well-Being of Adolescent Girls of Color

Health and well-being are complex terms that are defined in many different ways (Linton et al., 2016). The present study was guided by a holistic perspective on adolescent health and well-being that captures multiple domains. Patton et al. (2016, p. 2426) suggest the “adolescent years are central in the development of capabilities related to health and well-being,” conceptualized as social, emotional, and physical resources across the lifespan. Similarly, Kia-Keating et al. (2011) propose that mental, physical, social, and spiritual

are key dimensions of health and well-being, and that they interact in a variety of ways to influence the overall functioning of adolescents. In the present study, we drew upon these definitions and focused primarily on physical, psychological, social, and spiritual dimensions of adolescent health and well-being.

Adolescent girls of color experience individual and structural barriers that impact their holistic health and well-being. These barriers exist due to complex and multifaceted risk factors interrelated to poverty, race, and gender. Within the *physical* dimension of health and well-being, studies show obesity rates are rising among adolescents from lower socioeconomic status (SES) backgrounds compared to their more affluent peers due to differences in food consumption and physical activity patterns (Frederick et al., 2014). Adolescents in the highest SES quartiles have a significantly lower prevalence of obesity than those in lower SES quartiles (Fradkin et al., 2015). In terms of race, physical inactivity is higher among youth who identify as adolescents of color than among White adolescents (Physical Activity Guidelines Advisory Committee, 2018). Further, at the intersection of race and gender, adolescent girls of color experience heightened risks for obesity. Barr-Anderson et al. (2013) found 26% of girls of color, aged 6 to 19 were obese, compared to 16% among White females.

Race and gender also play a role in an adolescent's *psychological* health (Cohen et al., 2010). Poor psychological health outcomes are due to barriers in accessing mental health services (Yasui et al., 2015), as well as cultural and contextual issues with service delivery that include systemic discrimination and racism (Barr-Anderson et al., 2013). Researchers also found that youth who identify as adolescents of color have greater mental health concerns compared to other adolescents (Kennard et al., 2006).

At the intersection of race and gender, vulnerable female adolescents also face additional *social* risks. Studies indicate that adolescent girls of color have an increased risk for poor social skills and social exclusion and are more likely to lack a sense of purpose, hope, and a positive outlook on life compared to other adolescent girls (Shea & Coyne, 2017; Sullivan et al., 2006). Moreover, Twenge et al. (2018) found due to the pervasive and increasing use of social media and technology, adolescents, particularly females, are spending less time developing person-to-person communication and social skills, which could be contributing factors in the rise of suicide and depression among adolescent females.

Catalano et al. (2004) define spiritual health as “relating to,

consisting of, or having the nature of spirit; concerned with or affecting the soul; of, from, or relating to God; of or belonging to a church or religion” (p. 105). Within this view of spirituality is defined as a continuum of hope to hopelessness. Adolescents, especially those in high-poverty inner-city neighborhoods, are more likely to have a hopeless orientation on life that increases their engagement in risky behaviors (Bolland, 2003). In contrast, Carvajal (2012) found that hopeful or positive life expectancies in adolescents reduce risk of alcohol consumption and enhance healthier food choices as well as more frequent physical activity over time. Hence, adolescents need access to relationships, resources, and environments that help them build and access a hopeful orientation for the future.

Access to community-based activities and environments that address the holistic development of adolescent girls of color may be one way to buffer risks for less-than-optimal health and well-being outcomes among this population. However, Bates et al. (2020) found adolescent girls of color in underserved communities experience disparities in access to PYD programs and sports. Relatedly, Thomas et al. (2008) argue that adolescent girls of color have greater access to media-related activities associated with poor health outcomes rather than community-based opportunities that can promote positive social and emotional development. Given that intersecting experiences along the lines of racism, sexism, and poverty influence adolescent girls of color, in addition to the lack of opportunities to engage in PYD experiences, there is a need to develop community, school, and individual interventions that not only mitigate health risks, but also are accessible to underserved adolescents.

### Sport-Based Positive Youth Development

PYD settings are contexts that can be leveraged to support adolescent development. An underlying assumption of the PYD framework is that adolescents are active producers of their own development and change (Lerner et al., 2015). Sport is one PYD setting that has been associated with a variety of positive change mechanisms that focus on health and well-being outcomes across personal (e.g., confidence, self-esteem, and academic benefits), social (e.g., peer relationships, teamwork, and leadership), and physical (e.g., movement skills and healthy active living) domains for adolescents (Holt et al., 2017). In fact, in a systematic review of the benefits of sport participation, Eime et al. (2013) found that adolescents who participated in a sport reported improved self-esteem and social interaction and fewer depressive symptoms. Super et al. (2018) also reported such outcomes noting participation in sport can influence prosocial behavior, positive health and well-

being, and a sense of self-efficacy in dealing with life's stressors. Studies highlight the role of sports in achieving positive developmental outcomes and addressing social conditions experienced by vulnerable youth populations.

Notably, participation in traditional sport or engagement in play and physical activity *do not* inherently lead to desired health and well-being outcomes (Coakley, 2011). Rather, *the design* of sport-based programs, when intentionally focused on health and well-being or the development of life skills, can facilitate positive physical, psychological, and social outcomes (Weiss et al., 2013). If appropriately designed with clear goals and informed by PYD best practices, sport-based PYD contexts can provide opportunities for youth to learn important lessons, and provide them with an outlet for physical activity (Perkins & Noam, 2007). However, when, where, and for how long interventions take place may also influence youth outcomes. Williams and Yeo (2016) found the majority of interventions that aim to improve health via access to physical activity take place in school settings and do not leverage summer out-of-school time. Further, interventions are often long term (i.e., eight weeks to two years), but are constrained to a low dose and frequency due to the constraints of school hours (Williams & Yeo, 2016). Hence, gaps exist in our understanding of whether summer and higher dosage and frequency interventions lead to the positive developmental outcomes.

Adolescent girls of color have a particularly acute need for supports that address their holistic health and well-being. Sport-based PYD programs may be one intervention approach communities can take to build protective factors and promote equity and access to physical activity for adolescent girls of color. Our mixed method study seeks to examine how participation in a four-week, high dosage and frequency, sport-based summer camp influenced the holistic health and well-being outcomes of a sample of adolescent girls of color. We examined three research questions among adolescent girls of color: (a) What perceived program *mechanisms* and *design components* influence participation in a sport-based PYD program? (b) What perceived health and well-being outcomes are influenced by participation in a sport-based PYD program? (c) Are there differences in girls' holistic health and well-being outcomes following participation in a sport-based PYD program? Questions 1 and 2 were examined using qualitative interviews (n = 9) and Question 3 by comparing pre- and post-camp scores on measures of health and well-being (n = 35). We expect our study to contribute to gaps in our understanding of evidence-based practices and elements of effective program design within PYD context (Jones et al., 2017; Whitley et al., 2019). Given this aim, we synthesized our findings to

create a theory of change (ToC) that illuminated intersectional elements of sport-based PYD programs for adolescent girls of color. Although no one definition of ToC exists that accounts for all aspects of the model, our approach was to elevate the voices of adolescent girls of color to describe *how* (i.e., causal mechanisms) a program fosters specific outcomes (Breuer et al., 2016). According to a review by Bonell et al. (2016), most interventions are not designed nor informed by ToC and provide “little useful evidence about the effectiveness of the PYD approach” (p. 11). Therefore, our study sought to inform the development of effective PYD programs for adolescents who experience systemic and interpersonal risks in their communities (Jones et al., 2017).

## METHOD

### Study Design and Analysis

The Learning in Fitness and Education through Sports (LiFEsports) Initiative is a sport-based PYD program developed at The Ohio State University (OSU). LiFEsports emerged from a previously funded federal sports program known as the National Youth Sports Program (NYSP). NYSP was designed to engage youth living at or below the poverty line in free summer sports programming on university campuses. Following the cut of federal funding, OSU revamped NYSP to create LiFEsports. Each year, LiFEsports serves approximately 600 youth, aged 9 to 15, during a free 19-day sport-based summer camp. Annually, campers receive two free meals and transportation to and from OSU's campus via local community centers throughout the city. Outreach via community centers and through schools in zip codes with a high number of youths living in poverty are targeted for recruitment to the camp, which is provided at no cost to campers or their families. However, youth do not have to meet any poverty indicators to register. In 2017, 91% of LiFEsports participants identified as Black and 51% as female. Additionally, 31% of the participants were between 13 and 15 years old. In total, 80% of campers lived within 200% of the poverty line and 69% reported qualifying for free and reduced lunch (Anderson-Butcher et al., 2017).

Campers are organized according to age into groups of approximately 25 with a trained counselor assigned to each group. Most groups include both boys and girls, whereas some groups are girls or boys only, as research indicates girls' physical activity participation increases when in same-sex groups (Casey et al., 2009). Over the course of four weeks, campers participate in nine sport-based and healthy lifestyle activities (e.g., soccer, basketball) led by trained recreational sport leaders for four hours each day.

Campers also engage in a daily classroom-based social skills curriculum called “Chalk Talk” for one hour. The Chalk Talk curriculum focuses on the development of four social and life skills: (a) self-control; (b) effort; (c) teamwork; and (d) social responsibility (S.E.T.S.). During Chalk Talk, campers engage in activities (e.g., role play) that ask them to utilize and demonstrate their understanding of each of the four S.E.T.S. To support Chalk Talk sessions and skills learned in sport, staff members positively reinforce and reward youth who exhibit S.E.T.S. with buttons (e.g., small pins that have a Buckeye leaf). Staff members employed at the camp often reflect a highly diverse population of college students at OSU, health and education professionals in the community, and previous campers who now serve as junior counselors. Together, staff and older youth encourage younger youth to reflect on their use of S.E.T.S. during the camp and ask youth to verbalize ways to transfer each skill to other areas of their lives at the end of every sport session (Riley & Anderson-Butcher, 2012).

To explore how the LiFEsports sport-based PYD summer camp influenced the holistic health and well-being outcomes of adolescent girls of color, we designed a mixed method study. We conducted individual interviews with a subsample of adolescent Black and Bi-racial girls aged 13 to 15 who attended the summer camp in 2017. Guided by scholars researching intersectional topics, we used in-depth interviews, narratives, and open-ended questions to ask our research questions (Bowleg, 2012; Hankivsky et al., 2010). We also examined changes in mean scores on three valid and reliable measures gathered using pre- and post-camp survey data. We used comparisons of changes in mean scores over time to assess how the summer camp influenced the holistic health and well-being outcomes of the sample of adolescent girls of color. We then used quantitative and qualitative findings to develop and discuss a ToC of sport-based PYD for adolescent girls of color. Procedures for both the quantitative and qualitative methods are described next. All procedures were approved by the lead investigator's Institutional Review Board.

### Qualitative Procedure

#### Sample

Adolescent girls of color participating in the 2017 LiFEsports summer camp served as the sample for this study. Inclusion criteria for recruitment included: (a) completion of camp registration documents, (b) identifying as a female youth participant, and (c) reporting an age of 13 to 15 years old. Socioeconomic status was not included as an element of inclusion given our focus on race, gender, and age. To recruit participants for the qualitative



interviews, program staff assisted the researchers by sending emails to parents and guardians of 83 adolescent girls of color who met the aforementioned eligibility criteria. This included youth who self-identified in the registration forms for the camp as Black only or Black *and* Bi-racial. However, we acknowledge these groups are not monolithic and the effects of colorism, differential treatment, and biases that exist on the basis of skin tone, differentiate the experiences of girls at this developmental age (Adams et al., 2016).

After identifying eligible participants via interest expressed by parents, we worked to schedule individual interviews with their daughters and to complete consent and assent forms. In total, we recruited, scheduled, and interviewed seven adolescent girls who self-identified as Black and two who self-identified as Black *and* Bi-racial girls. Three girls were 15 years old, and six were 14. We used registration data to note that seven of the nine girls lived in households at or below the poverty level (see Table 1 for more demographic information). Interviews ranged in length from 30 to 75 minutes with an average time of 50 minutes.

### Interviews

The researchers developed a semistructured interview guide to: (a) elicit the girls' broad experiences at the LiFEsports camp; (b) gain information regarding the girls' experiences and health and well-being outcomes (i.e., physical, psychological, social, and spiritual); and (c) probe for possible programmatic mechanisms and design components that influenced their experiences and outcomes. Sample interview questions included: "Describe your LiFEsports experience in your own words?" and "In what ways, if any, has LiFEsports influenced your physical activity?" The interviewer also utilized probes to gain greater insight into the girls' experiences by asking for specific examples.

### Data Analysis

All interviews were transcribed verbatim by the first author who read the transcripts several times. The first author then uploaded the transcripts to NVivo 11®, a software program designed for qualitative research. Both deductive and inductive processes were utilized to analyze these data

Table 1. Participant Demographics

Participant Pseudonym	Race	Number of Household Residents	Household Income	Receive Free or Reduced Lunch
Camille	White, Caucasian/Black or African American	3	\$20,000-\$29,000	Yes
Jada	Black or African American	6	Unknown	Yes
Lainey	Black or African American	7	\$5,000-\$9,000	Yes
Maeve	Black or African American	4	\$30,000-\$39,000	Yes
Makayla	Black or African American	3	\$20,000-\$29,000	Yes
Nina	Black or African American	4	\$30,000-\$39,000	Unknown
Sasha	Black or African American	4	Unknown	Unknown
Shyla	Black or African American	3	\$30,000-\$39,000	Unknown
Talia	Black or African American/American Indian or Alaska Native	4	Unknown	No

into pre-established health and well-being categories (i.e., physical, psychological, social, or spiritual) and mechanisms/design components (Kia-Keating et al., 2011; Linton et al., 2016). We utilized inductive analyses to identify themes from the data to create sets of integrated concepts (Creswell & Poth, 2018; Patton, 2015). The main categorizing strategy for creating broader themes was data coding as recommended by Maxwell (2005). As part of the coding process, the researchers pulled direct quotes that represented each category and organized codes into lower order, subthemes, and higher order themes (Creswell & Poth, 2018; Maxwell, 2005). As recommended by Patton (2015), researchers often use triangulation methods to validate themes.

We also used an expert peer to debrief findings and member check to decrease bias and ensure validity (Lincoln & Guba, 1985). The peer who supported the debrief was a local Boys and Girls Club senior youth engagement strategist who had familiarity with the philosophy and mission of LiFEsports. The lead author met the professional in person to discuss a priori themes until both confirmed higher order themes. This process further validated the accuracy of our interpretation of these data. Also, as recommended by Barker and Pistrang (2005), we completed a member check, which ideally consists of respondent validation. In this case, a member check comprised asking two older teen girls who had experienced LiFEsports, but were not interviewed due to inclusion criteria, to review the identified themes and findings. Patton (2015) argues that in qualitative research this “alternative” check is satisfactory as long as checkers have familiarity with the program experience to provide credibility and authenticity. These two girls, still involved in various LiFEsports activities, had demographics similar to those of the study sample and were more accessible during the data analysis process than the girls interviewed. During the member check process, the lead researcher achieved mutual agreement with both girls in their interpretation of data.

## Quantitative Procedure

### Sample

Of the 83 adolescent girls of color, aged 13 to 15 that met inclusion criteria, we sought to compare changes in their mean scores over time on the three outcomes measures using pre- and post-camp survey data. Notably, high school campers did not complete pre- and post-camp surveys, rather they helped implement the surveys with younger campers. This design element of the camp removed 21 youth in our quantitative sample. We then only analyzed changes in mean scores from adolescent girls of color who

completed both pre- and post-camp surveys and those who answered at least half of the items on each scale. This decision was made for three reasons: (a) completion of at least half of the items maintained the reliability of each scale (as measured by Cronbach’s alpha of 0.70 or higher); (b) mean imputation can inflate correlation coefficients in small samples (Parent, 2013); and (c) we wanted to maintain our commitment to elevating the voices of the adolescent girls of color within our quantitative analysis. As a result of these decisions, we analyzed changes in pre- and post-camp measures among a final sample of 35 adolescent girls of color who attended the LiFEsports Summer Camp in 2017.

### Measures

The Healthy Lifestyle Behavior Scale (Davis et al. 2019) was used to evaluate youth perceptions about their health behaviors, including their engagement in physical activity, intake of fruits and vegetables, time spent watching TV, and perceptions of whether S.E.T.S. helped them engage in a healthier lifestyle. The scale uses a 5-point Likert-type format (1 = *not at all true*, 2 = *a little true*, 3 = *somewhat true*, 4 = *pretty true*, and 5 = *really true*) and consists of eight items. Mean scores were calculated for campers who answered at least six of the eight items on the measure. An example item from the scale is “I can do at least 60 minutes of physical activity each day.” Cronbach’s alpha for the current sample was 0.86.

The Social Competence Scale (Anderson-Butcher et al., 2014) was used to assess perceived social competence at pre- and post-camp participation. The scale uses five items measured on a 5-point Likert-type scale (1 = *not at all true*, 2 = *a little true*, 3 = *somewhat true*, 4 = *pretty true*, and 5 = *really true*). We calculated mean scores based on completion of three of the five items on the scale. Example items on the scale include: (a) I help other people; (a) I ask others if I can be of help; and (a) I am good at making friends. The Cronbach’s alpha for the current sample was 0.86.

Anderson-Butcher et al. (2008) developed The Social Sport Experience Scale to assess youth perceptions of their social experiences and their perceptions of their ability to work with others while playing sports. The scale consists of eight items (mean scores derived from completion of at least six items) measured on a scale of 1 = *not at all true*, 2 = *a little true*, 3 = *somewhat true*, 4 = *pretty true*, and 5 = *really true*. An example item is “I respect others when playing sports.” The scale demonstrated adequate reliability in the current sample with a Cronbach’s alpha of 0.90.

## Data Analysis

Using the Statistical Package for the Social Sciences (SPSS) software, we calculated pre- and post-camp mean scores on each of the measures by taking the sum of the items and dividing the total by the number of items on the measure. Then, we conducted paired sample *t*-tests to compare the differences in pre- and post-camp mean scores on the aforementioned three outcome measures. We considered results significant if  $p < 0.05$  (Nardi, 2006).

## Theory of Change Procedure

After we analyzed both qualitative and quantitative data, we retrospectively developed a ToC based on the interaction and pattern of factors identified in the findings (Vogel, 2012). As explained earlier, ToC is a perspective of scientific realism that focuses on the interaction among context, mechanisms, and outcomes relating to a program's effect on the participants (Breuer et al., 2016). Although the most common approach is to utilize a ToC prospectively, a number of studies have developed a ToC framework retrospectively (Breuer et al., 2016; Vogel, 2012) to assist and guide future studies. We grounded our ToC in the findings and from the literature relevant to evaluating PYD and sport-based PYD programs (Holt et al., 2017; Weiss et al., 2012).

## QUALITATIVE RESULTS

We present the qualitative results in two main sections. We first detail findings of mechanisms to support participation and engagement, program design components, as well as other facilitating and inhibiting factors that appeared to influence the experiences and outcomes of adolescent girls of color in the sport-based PYD summer camp. Then, we report the girls' perceptions of how the sport-based PYD program impacted their holistic health and well-being outcomes (i.e., physical, social, psychological, and spiritual). In order to protect the privacy of the participants, pseudonyms are used to describe for the reader the experiences of each adolescent girl in our sample.

### LiFEsports Experience

Participants discussed several underlying factors linked to the sport-based PYD program that influenced their experiences. Three main themes emerged: (a) *program mechanisms* that influenced the girls' participation and engagement in the sport-based PYD program; (b) *program design components* that facilitated positive health and well-being outcomes; and (c) *facilitating/inhibiting factors* to participation.

## Program Mechanisms

Several themes emerged as to why adolescent girls chose to participate in the sport-based PYD program emerged. These themes included: (a) parental encouragement ( $n = 6$ ); (b) access to new activities during out of school time ( $n = 8$ ); and (c) opportunities to access new sports ( $n = 5$ ). Parental encouragement included references to parents or guardians encouraging the participants to be active and attend the sport-based PYD summer camp (i.e., role models). Maeve described it this way, "Well, I never actually heard of it until my mom told me about it." The second theme included participating because the camp gave the girls opportunities to try new things during out-of-school time. Sasha described LiFEsports as an opportunity that not everyone has: "It's just an experience I don't really think you can get anywhere else... 'cause not many kids get to do a lot of stuff outside of school and around the summer and stuff." The final theme was the opportunity to access to new sports. For example, Camille stated, "We get shown all the sports and things that we wouldn't learn at school." Similarly, Makayla said, "I thought [LiFEsports] would be a pretty good idea 'cause I like doing different sports, so the idea of doing different sports kinda had me like want to go there."

## Program Design Components

Several underlying program design components contributed to the experiences and reported health and well-being outcomes described by the participants. The most frequent program design components described were: (a) non-judgmental motivational climate ( $n = 5$ ), (b) social skills curriculum ( $n = 7$ ); (c) relationships with caring adults ( $n = 8$ ), and (d) opportunities to build new relationships through sport and play ( $n = 8$ ).

**Nonjudgmental Motivational Climate.** Five participants discussed the nonjudgmental motivational climate of LiFEsports. Nina described being encouraged and not feeling judged when she tried a new sport at camp which motivated her:

*Yeah like a couple sports like volleyball or a sport that I'm not really good at um if I like couldn't throw the ball or hit the ball well no one would really blame me, or people would usually just tell you you're good, or keep trying, or something which really helped.*

When the interviewer probed Nina asking how she felt when her coaches (staff) or peers would tell her "you're good or keep trying," she responded, "Like better about myself." Relatedly, Makayla described a moment playing basketball at LiFEsports where she had the opportunity to

feel motivated:

*The [basket]ball was almost going out so I picked it up and started dribbling and ran down the court and made a layup. It's like hey, I made the first point and you feel really good; it boosts you all the way up.*

Statements about the overall climate of the sport-based PYD program also reflected themes such as increased confidence and competence due to youth feeling safe, encouraged, and comfortable in trying new things and playing different sports.

**Application and Reinforcement of Social Skills through Sport.** Seven girls discussed how learning about S.E.T.S., the four social skills framing the sport-based PYD summer camp, led to greater awareness of how they were interacting with others. For example, Lainey, Makayla, and Sasha stated that they were conscious of using S.E.T.S. as they participated in camp because of their attendance at Chalk Talk and the staff's reinforcement of S.E.T.S. during each sport. Sasha shared, "It's unconsciously there. So I might not think I'm using S.E.T.S., but I actually am most of the time." Similarly, Makayla described S.E.T.S. being intuitive or in your heart, "[You] just have it in [your] heart, you don't really have to think of S.E.T.S. it's just in [your] heart."

Four girls also reported that attending the camp and learning about S.E.T.S. helped them transfer these skills to other areas of their life. About using S.E.T.S. in her day to day life, Lainey said, "It just pops into my head, it's like a quick glance at a memory from LiFEsports that I tried or I worked as a team or I did something responsible and I can do it again." Shyla shared how she thinks about S.E.T.S. in life outside of camp: "Cause you have to when you're out in the real world. You have to have self-control, and you have to put in effort into everything that you do, and sometimes you're gonna have to work together with people."

**Relationships with Caring Adults.** Eight participants identified program staff as positive factors in their overall camp experience. These caring adults at camp helped girls feel confident and competent in sports and with their peers, and were a significant reason they chose to participate in the sport-based PYD program for consecutive years. For instance, in a follow-up response to a probe about why camp was "good," Jada said, "Because the people there are so friendly, the coaches are nice and they try to make the place fun." Nina described how the coaches would encourage her, "No one would blame me or people would usually just tell you you're good or keep trying." Similarly, Lainey shared that her counselor would tell her that she just

has to try and "... that made her a little bit more confident." She also said:

*I feel like me and [counselor name] had a bond, even though we didn't know each other for a long time, I feel like we had a bond where I kinda looked at him not as my counselor but more of like a big brother.*

**Opportunities to Build New Relationships through Sports and Play.** Eight girls described meeting new people while playing sports as a reason they enjoyed and continued to participate in the sport-based PYD program. The girls felt they developed positive relationships at the camp. Shyla stated, "Well it's just the experience, you get to meet new people, have that feeling of just running around, actually playing something, [and] learning new things like sports." The girls also shared perceptions of how playing new sports and being put in groups where they had to meet new peers impacted their experience. Talia said:

*I feel like I know people there. They put you in a group with unknown people for a reason. They don't put you in a group with all your friends because that not only causes a lot of trouble, but you don't have to work with everybody.*

Other participants also described how the design of the program, which places youth in groups of 25 with peers their age they don't know, helped them get to know new people. For instance, Nina shared a memory about walking to different sport activities with her teammates (group of peers she didn't know at the start of camp) demonstrating her experience getting along and having fun with them:

*It's always fun when we're walking from one place to another when you're talking with your team on the way or sometimes when your whole team is actually together you get like a good laugh in.*

### **Facilitating and inhibiting factors**

Girls described experiences that facilitated or inhibited their participation. These factors speak to the individual differences and unique needs of this adolescent population. Factors included: (a) participation and competition with males; (b) skill development opportunities within the activities or sports; and (c) peer/group interactions. Three girls, Camille, Maeve, and Talia, discussed experiences related to specific sports at the camp that sometimes inhibited their participation in sport with their male peers. Camille said, "The only thing that I really don't enjoy is when we're doing sports and stuff and that the boys are more dominant in all the sports. The boys have it [the ball] the whole time and don't pass." In contrast, girls reported



enjoying individualized or girl-specific sport activities like track. Makayla remembered she particularly enjoyed “when we all [note: her all female group] ran track, not everybody ran track, and then we all just cheered each other on, people were trying their best.”

Relating to skill development and opportunities, girls reported some activities or sports lacked opportunities to develop skills or were “boring.” Maeve mentioned she did not enjoy football because “we had to keep running back and forth and back and forth.” Talia described being bored at swimming. It was generally apparent from the interviews that sports that allowed for frequent opportunities for skill development facilitated greater participation. A final facilitating/inhibiting factor relating to peer interactions also emerged. Talia described a negative peer experience in her camp group: “It wasn’t a good group to be in. I just didn’t like the group.” This experience inhibited her engagement and participation in sports during the camp. However, other girls enjoyed their groups and the opportunity to interact with kids their age. Lainey stated, “The sports were fun for the most part and just being around kids my age and being able to do [activities] with kids my age is fun.” It was apparent that interactions and the group dynamics were important facilitators or inhibitors to the girls’ participation.

### Health and Well-Being Outcomes

In this section, we describe girls’ perceptions of how the sport-based PYD program influenced their physical, social, psychological, and spiritual health and well-being.

#### Physical Health

Multiple participants described improvements in their health, physical activity levels, and in their current and future participation in sports ( $n = 8$ ) as a result of their participation in LiFEsports. Girls reported increased activity levels, improved perceptions of their physique, and greater readiness and preparation for physical education classes at school. Talia stated that as a result of LiFEsports, “I work out a lot more.” Camille shared how the camp influenced her physical activity, “It gets me out of the house [and] it gets me moving.”

Seven girls credited LiFEsports with their current participation and intended future participation in new sports, due to their greater knowledge about sports and their improved feeling when participating in sports. Sasha described how this knowledge made her feel more prepared to engage in sports in the future when she said, “When we do different sports at school it’s always nice ‘cause I already know a lot of the stuff, so it’s like nice to have that under my belt.” Six girls also cited future participation in

sports as a positive takeaway. Lainey said, “It’s gotten me to like want to try out some more things. Right now, softball season is about to start so I’m going to do softball since we did softball at camp.”

#### Psychological Health

Participants described improvements in their psychological health, including increased confidence, feelings of pride, emotional control, and greater maturity related to trying new things and sports in general ( $n = 9$ ). Six girls described how LiFEsports made them feel more committed to putting effort into trying new things and never giving up. Lainey said, “I want to never give up on anything. I want to try and try and try again.” Nina stated, “It’s [LiFEsports] made me sort of have an open mind to like it won’t hurt to try new things even if it seems like I won’t like it.”

Five of the girls discussed feelings of pride after their camp experience. To illustrate, Lainey stated, “I’m proud that I tried everything that I did and I’m proud that I didn’t complain as much as I thought I would.” Other participants also mentioned participation in the sport-based PYD program helped them better control their emotions, influenced their outlook on life, and impacted their perceived sense of maturity. Makayla used a metaphor to describe how LiFEsports helped her mature, “It’s like growin’ up, I’m gonna be weird but, like a caterpillar in a cocoon. I was like weird in middle school and then flurried into junior high.”

#### Social Health

All participants described improvements in their social health and well-being, including increased social skills and improved relationships with others and family members ( $n = 9$ ). Specifically, seven girls reported that they were more outgoing after participating in LiFEsports. Camille stated, “LiFEsports has helped me be more out there with making friends.” Related to friendships, all nine girls discussed how camp impacted their development of relationships with their friends or peers. Jada described a long-term friendship she developed from participating in the sport-based PYD program:

*My friend, she’s been in my group since the first year and I’ve been friends with her since even when we haven’t been in the same group and I just think that’s really cool how we only see each other for a month out of a year and we’re still friends and see each other outside [of camp].*

Seven girls also spoke about various ways that LiFEsports

influenced their relationships with family such as playing sports together more. Makayla mentioned, “We’d go to the [basketball] court more often with my family.”

### *Spiritual Health*

Participants described improvements in their spirituality, including increased hope for themselves in the future, as well as feelings of life satisfaction and happiness ( $n = 8$ ). Nina described her takeaways from the camp when she stated, “It gives you hope that you can do better or that you can do something.” LiFEsports gave Jada hope in a different way which she shared: “I think that it just gave me hope that I could make it on to an actual [sport] team.”

## QUANTITATIVE RESULTS

Using paired  $t$ -tests, we compared changes in girls’ mean pre- and post-camp scores for the following measures: Healthy Lifestyles, Social Competence, and Social Sport Experience (see Table 2). Youth perceptions improved on all three measures with increases ranging from 0.10 to 0.24. The results indicated significant increases for the girls on measures of healthy lifestyles ( $p < 0.05$ ). Improvements on the social competence and sport experience scale were nonsignificant.

Table 2. Pre- and Post-Camp Scores ( $N = 35$ )

Scale	Pre-Test Mean (SD)	Post-Test Mean (SD)	Mean Difference	Significance (2-tailed)
Healthy Lifestyle Behavior	3.73 (0.83)	3.97 (0.83)	+0.24	0.01*
Social Competence	4.04 (0.89)	4.21 (0.79)	+0.17	0.09
Social Sport Experience	4.06 (0.91)	4.16 (0.79)	+0.10	0.21

Note. \* $p < 0.05$ .

## EMERGENT THEORY OF CHANGE

Based on our interpretation of the interviews and the quantitative findings, a general pattern of responses appeared to emerge relating to program mechanisms and health and well-being outcomes. Based on the notion that theory of change (ToC) is designed to represent how a program brings about specific outcomes (Breuer et al., 2016), we synthesized these findings into an emergent ToC to frame how underlying mechanisms and design components of sport-based PYD programs can facilitate positive physical, social, psychological, and spiritual health outcomes for adolescent girls of color (see Figure 1).

## DISCUSSION

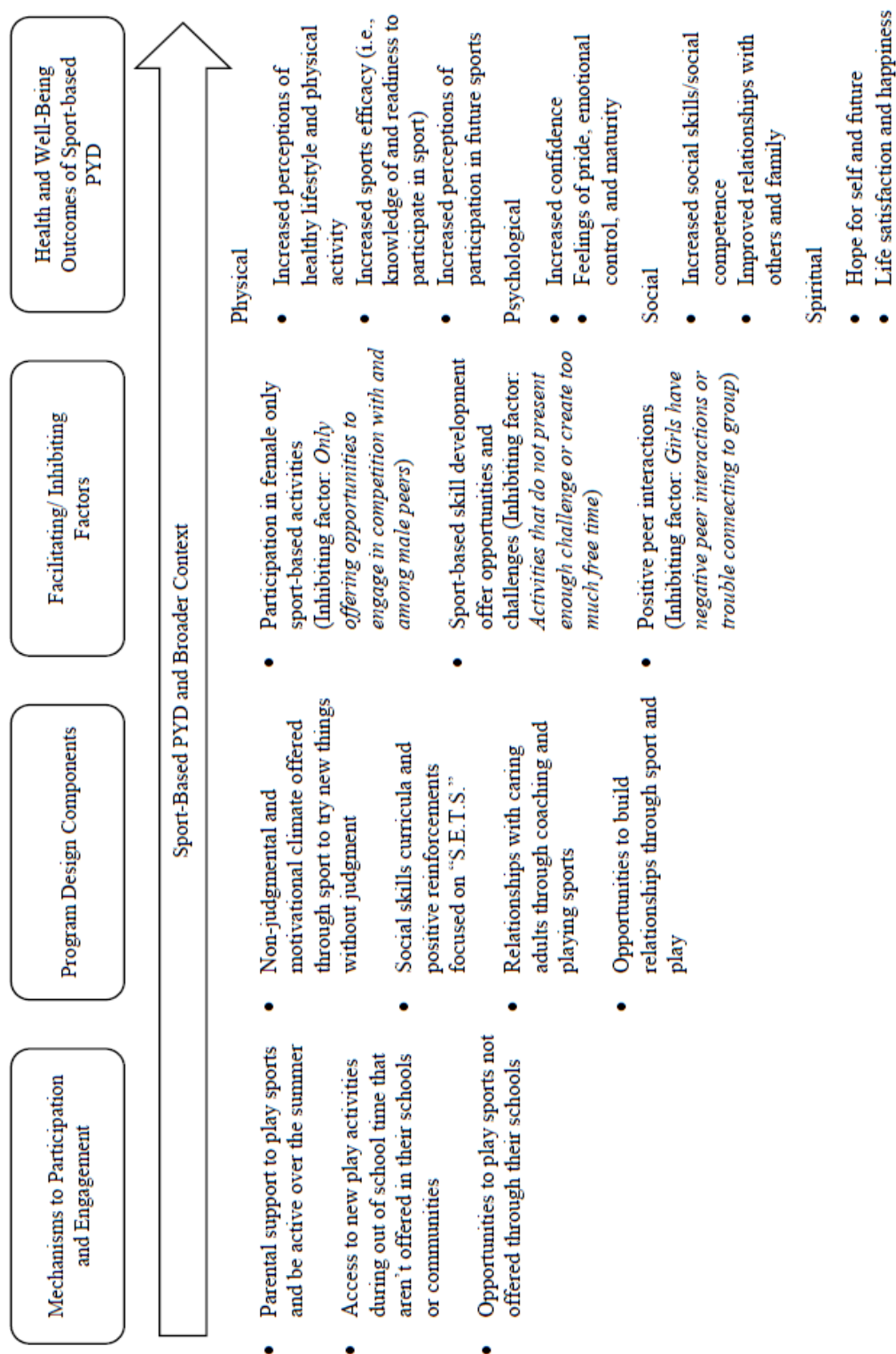
This mixed method study examined how participation in a sport-based PYD program impacted the health and well-being (i.e., physical, social, psychological, and spiritual) of underserved adolescent girls of color. Our study further explored what program design components adolescent girls of color perceived to influence their health and well-being outcomes within the sport-based PYD program. Results show that the girls perceived significant changes in all aspects of their holistic health and well-being—conceptualized as a dynamic interaction among physical, psychological, social, and spiritual dimensions. The participants identified both explicit mechanisms embedded in the program as well as implicit factors that were especially relevant to their social skills development.

### **Program Design**

Notably, adolescent girls of color’ experiences in the sport-based PYD program were largely perceived as positive. Through their positive recounts of the summer camp experience, the girls identified several key mechanisms underlying their experiences that affirm their developmental age and intersectional identities. These mechanisms are important as growth and development through sport-based

PYD programs cannot occur without continual participation and engagement (Armour et al., 2013). Specifically, the girls reported support from parents and guardians were important, along with access to new sports not offered in their schools. Findings may indicate adolescent girls of color may feel more motivated when their parents support their engagement in sport-based activities. For families living below the poverty line, these opportunities may be more accessible when they are free or offered during out of school time. Hence, to engage this population in physical activity interventions, offering out-of-school activities and targeting recruitment to parents and families may be critical for engaging adolescent girls of color in sport-based PYD programs.

Figure 1. Theory of Change for Adolescent Girls of Color in Sport-Based PYD



Related to program design components, our findings indicated the social and motivational climate, curricula and positive behavioral reinforcements, relationships with adult mentors, as well as opportunities to build sport and social skills in one setting were protective program design components. These findings align with Lerner et al.'s (2014) "Big 3" of PYD which include positive relationships, skill building, and leadership activities as important components of effective PYD programs. Scholars advocate that adolescent girls need safe spaces to express themselves without judgment, and need people and places to provide information and support (Svanemyr et al., 2015). As such, the social elements and latent reports of sexism or colorism among peers stand out as one of the most crucial design elements important to interventions designed for adolescent girls of color. For example, increased social skills reported in both the interviews and quantitative variables (i.e., social competence scores) may be associated with the intentional design component of teaching S.E.T.S.—both through sport and within the classroom context. In addition, the girls offered ideas that are grounded in intersectional elements that supported or inhibited their participation. Guided by these findings, programs that want to engage adolescent girls of color may see increased participation and positive outcomes when girls do not have to play sports with their male peers, when girl-only sports with few spectators exist in the program, and when adults tend to the formation of positive peer groups.

In addition, the opportunities to build positive relationships with peers and adults significantly contributed to the girls' positive experiences at the sport-based PYD summer camp. Authentic relationships with others are critical for this gender and age group (Thomaes et al., 2017; Tolman et al., 2006). The relationship theme is an essential characteristic that cuts across all variations of sport-based PYD programs and reviews of such programs. No matter what context, adolescents express a deep desire to form social bonds and feel a sense of belonging. Holt et al. (2017) highlighted "the critical importance of creating an appropriate social environment" (p. 39) that includes opportunities for feelings of belonging to a wider community. Time and again, the girls in the present study emphasized the enduring bonds of friendship they formed with both peers and adult mentor/coaches as a direct result of being a *LiFEsports* participant. Importantly, the uniqueness and power of sport programs can maximize these social bonds, feelings of belonging, and other aspects of health and well-being if intentionally structured with appropriate PYD program design elements and caring adults (Holt et al., 2017; Perkins & Noam, 2007). Certainly for girls interviewed in this study, *LiFEsports* served as a haven that was fun and

challenging. The nonjudgmental motivational climate created many opportunities to develop and practice integration of new social skills and positive health behaviors.

### Health and Well-Being Outcomes

We identified several positive holistic health and well-being outcomes via qualitative findings such as engagement in physical activity and perceived future sport participation. Our quantitative findings also indicated that participants increased their engagement of healthy lifestyle behaviors. As previously discussed, adolescent girls of color living in poverty are one of the most physically inactive and obese groups in the United States, and athletic participation rates substantially decline among these youth from adolescence into adulthood (Barr-Anderson et al., 2013; Park et al., 2014). In addition, adolescent girls of color reported positive psychological health outcomes, such as increased confidence, from their participation in *LiFEsports*. Improvements in psychological health are supported by past research suggesting sport-based PYD programs can positively influence perceptions of self-efficacy in sport, as well as general feelings of confidence and competence for engaging in sport-based activities in the future.

Social aspects of health and well-being, as illustrated by learning social skills and building prosocial relationships, were outcomes discussed at length by participants. Our quantitative findings validated this finding as adolescent girls of color grew in their perceptions of their social competence over the course of the four-week intervention, but not in their social experiences in sport. These findings may indicate the design of *LiFEsports* promotes positive social growth and development. However, participants may not become more socially competent by just playing sports, but rather when sports are coupled with intentional interactions with new peers and adults.

Lastly, participants also reported positive spiritual growth, including perceptions of hope and overall life satisfaction. In this study, assertions of "I can do it" and "I believe in myself," whether psychological or spiritual, were positive outcomes reported via participation in the sport-based PYD summer camp. Findings suggest sport-based PYD programs may be one way for adolescent girls to increase their hope, enhance their motivation, and develop skills that ultimately result in positive health behaviors (Bolland, 2003; Marques et al., 2013).



## Emergent Theory of Change

Our retrospective ToC integrates mechanisms and program design components of sport-based PYD programs that contribute to positive physical, social, psychological, as well as spiritual health and well-being outcomes for adolescent girls of color in this study. The intent of our ToC was to address the gap in theory-driven sport-based PYD (Holt et al., 2017), which is especially apparent when examining the experiences of adolescent girls of color (Hermens et al., 2017). As Lerner et al. (2011) suggest, these models are needed to call attention to the complex interplay of explicit and implicit mechanisms within the design of sport-based PYD programs. The experiences shared by the participants elicited outcomes above and beyond those explicitly targeted by *LiFEsports*. Burnes (2009) noted that change is often not a linear process, but rather a continuous, open-ended, cumulative and unpredictable process. Findings from our study show that sport-based PYD programs can be intentionally designed to elicit both implicit and explicit change.

Our emergent ToC synthesizes the interconnected causal mechanisms, inhibiting and facilitating factors, and program outcomes that were described by adolescent girls of color who participated in *LiFEsports* (see Figure 1). Mechanisms for participation and engagement include familial support, access to new sports, and opportunities to engage in sport during summer or out-of-school time. We also map the importance of cultivating nonjudgmental motivational climates and generating a sense of belonging when looking to reach this adolescent population. To leverage opportunities to engage adolescent girls of color in sport-based PYD activities, practitioners and scholars can build programs that acknowledge intersectional needs including creating female-only sport spaces in addition to creating spaces that foster positive peer interaction. Together, these foundational linkages can inform the future design of sport-based interventions for adolescent girls of color.

## Limitations

The present study is not without limitations. One limitation involves selection bias. Participants may not be representative of the larger group of girls who participate in the *LiFEsports* summer camp or other sport-based PYD programs in underserved communities. Further, as mentioned previously, the experiences of adolescent girls may differ on the basis of skin tone due to colorism and differences among socioeconomic status were not fully explored in this study. Future research distilling the differences among adolescent girls of color due in part to discrimination on the basis of their skin color and

socioeconomic status may further advance this area of scholarship. In addition, our relatively small sample size also warrants caution in interpreting our findings. We recognize there is a possibility of social desirability bias on the surveys and among the girls interviewed in responding to questions based on what they thought the interviewer or staff wanted to hear.

## CONCLUSION

Sport-based PYD programs may positively influence a broad spectrum of physical, psychological, social, and spiritual health and well-being for adolescent girls of color. Sport-based PYD programs may also be intentional interventions for adolescents in communities to mitigate environmental risks and to facilitate health and social equity. Our ToC serves as a guide for how sport-based PYD programs can be leveraged to influence adolescent girls of color' overall health and well-being in both explicit and implicit ways. The potential for sport-based PYD in promoting positive social change is reflected in one girl's statement summarizing her *LiFEsports* experience:

*I felt like an eagle in the sky . . . I was running and my hair was flowing back because of my braids but it was like the air was goin'; up on my scalp and I was just going and I saw people passin' me but it was like I didn't care, I'm doin' this, that's all that mattered, everything else just slowed down and I could focus on myself. It felt like I was on top of the world.*

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