

Evaluating *Girls on the Run* in Promoting Positive Youth Development: Group Comparisons on Life Skills Transfer and Social Processes

Maureen R. Weiss
University of Minnesota

Lindsay E. Kipp
Texas State University

Alison Phillips Reichter
University of Iowa

Nicole D. Bolter
San Francisco State University

Purpose: *Girls on the Run* (GOTR), a physical activity-based positive youth development program, uses running as a platform to teach life skills and promote healthy behaviors. In this companion paper of our comprehensive project, the authors evaluated program impact on positive youth development by comparing GOTR participants to youth in other organized activities (Sport and physical education [PE]) on life skills transfer and social processes. Qualitative methods complemented quantitative data through interviews with GOTR stakeholders. **Method:** The participants included 215 girls in GOTR and 692 girls in the same grades and schools who did not participate in GOTR (Sport = 485; PE = 207). They completed self-report measures of life skills transfer, peer and coach relatedness, and coach autonomy support at the season's end. GOTR subsamples of girls, coaches, caregivers, and school personnel participated in focus groups. **Results:** Girls in GOTR compared favorably to the Sport and PE girls on all life skills—managing emotions, resolving conflicts, helping others, and making intentional decisions—and to the PE girls for all 3 social processes. The GOTR and Sport girls did not differ on coach relatedness and autonomy support, but the Sport girls rated teammate relatedness higher. The GOTR girls' scores on life skills transfer remained stable at a 3-month follow-up assessment. Stakeholders in the focus groups shared corroborating evidence that, through participating in GOTR, girls learn skills that generalize to school and home contexts. **Conclusion:** Using comparison groups, a retention assessment, and mixed methods, the findings provide evidence that GOTR is effective in teaching skills and strategies that generalize to broader life domains. The processes that explain group differences on life skills transfer include GOTR's intentional curriculum of skill-building activities delivered by coaches within a caring and autonomy-supportive climate.

Keywords: evaluation research, out-of-school-time, coaching behaviors, mixed methods

It is widely believed that participating in sport teaches youth desirable attitudes, skills, and behaviors that can generalize to other domains, such as school and family (13,30). However, theory and research on coach-athlete interactions (17) and positive youth development (30,44) clearly indicate that acquiring attitudes and behaviors that transfer beyond sport (ie, life skills) is not attained automatically from participation—it is likely to occur when intentionally taught by supportive coaches who provide feedback within a climate that emphasizes effort and improvement rather than favorable social comparison. As Gould and Carson (13) stated, “Life skills are taught and not caught” (p. 75).

Researchers have devoted considerable effort to studying life skills development through sport (13,47). The positive youth development (PYD) framework has been embraced, due to its philosophy that *all* youth have the potential to grow and develop socially, psychologically, and behaviorally when afforded skill-building opportunities in family, school, and community settings

(7,20,22). The framework is grounded within ecological systems theories that highlight developmental outcomes as a result of dynamic relationships between individuals (attitudes, beliefs, and behaviors) and their social, environmental, and cultural contexts (10,21,26). Contextual features of effective youth development programs include appropriate structure, supportive relationships, skill-building opportunities, inclusion of all members, physical and psychological safety, and an autonomy-supportive climate that emphasizes growth and improvement (11,33).

Petitpas et al's (30) foundational paper stimulated a vision of youth sports within a PYD lens by translating concepts and processes to propose a framework for planning, implementing, and evaluating programs whose mission is to foster life skills development. The authors differentiated traditional sport from youth development programs, the former being those focused on teaching sport skills to optimize performance, whereas youth development programs are “. . . those that use sport as a vehicle to provide experiences that promote self-discovery and teach participants in an *intentional* and *systematic* manner . . . these programs have *clearly defined goals and strategies* to enhance the generalizability and *transfer of life skills* to other important life domains” (italics ours, p. 66). Although Petitpas et al focused on sport programs, we refer to physical activity PYD programs (PA-PYD) that are inclusive of a range of traditional and nontraditional activities. Petitpas

Weiss is with University of Minnesota, Minneapolis, MN, USA. Kipp is with Texas State University, San Marcos, TX, USA. Phillips Reichter is with University of Iowa, Iowa City, IA, USA. Bolter is with San Francisco State University, San Francisco, CA, USA. Weiss (mrweiss@umn.edu) is corresponding author.

et al highlighted *context* (eg, optimally challenging activities within a mastery climate) and *external assets* (eg, feelings of connectedness to coaches and teammates) as critical contributors to youths' acquisition of *internal assets* (ie, life skills) and desirable outcomes. These features suggest that, to optimize teaching psychosocial and behavioral competencies, PA-PYD programs should have an intentional life skills curriculum, trained coaches to deliver lessons within a supportive climate, and concurrent teaching of physical and life skills (3,30,47).

In addition to context, external assets, and internal assets, Petitpas et al (30) accentuated the need for rigorous research to evaluate whether programs are effective at teaching life skills and improving psychosocial outcomes. They recommended using feasible and longitudinal designs that assess whether season-long improvements endure beyond the program's conclusion, psychometrically sound and age-appropriate measures, both quantitative and qualitative methods, triangulation of data from multiple sources, and process and implementation variables. Gould and Carson (13) echoed Petitpas et al's call for more rigorous evaluation research " . . . there is a special need for longitudinal evaluations that track youth over time and measures that examine if life skills learned in sport are indeed transferring to non-sport settings" (p. 65). Rigor in program evaluation remains a goal of PA-PYD research, including the need for comparison groups, longitudinal designs, retention assessments, and mixed methods to determine evidence of effectiveness (2,10,46).

Several programs satisfy Petitpas et al's (30) criteria of a PYD focus, including an intentional curriculum of skill-building activities, trained leaders to deliver lessons with fidelity, and research to evaluate program effectiveness. The *Purdue Athletes Life Success* program and *Learning in Fitness and Education Sports Camp* are designed to promote positive outcomes for underserved youth in a university setting (eg, 1,40). Studies reveal that supportive leader behaviors predicted improvements in social competence and self-perceptions over the course of the program. At the national level, *Teaching Personal and Social Responsibility* is a PA-PYD program delivered in school (physical education) and community (sport club) settings with youth mainly from underserved and vulnerable communities (15,24). Studies demonstrate that *Teaching Personal and Social Responsibility* is successful in achieving PYD goals over the course of the program (16,50) and in generalizing skills to other contexts (25,42). Another national PA-PYD program, *The First Tee*, uses golf as a vehicle for teaching life skills and promoting positive psychosocial outcomes (49). Weiss et al (45,46,49) found strong evidence of program effectiveness in teaching life skills (eg, emotion management, conflict resolution) and enhancing psychosocial outcomes (eg, confidence, social responsibility) using a longitudinal design, comparison group, measures aligned with curricular goals, mixed methods, and multiple stakeholders' perspectives.

Girls on the Run (GOTR) is a national PA-PYD program and the focus of the present study. The program employs running and other physical activities as a platform for teaching life skills, healthy behaviors, and core values to third- through fifth-grade girls (www.girlsontherun.org). The program adopts Lerner's (21) *Five Cs* approach—the 10-week intentional curriculum is composed of lessons to help girls develop social, emotional, and physical *competence*, feel *confident* in who they are, create positive *connections* with peers and adults, develop strength of *character*, and respond to others and self with *care* and compassion. Core values entail being intentional in decision making, embracing individual differences, finding strength in connectedness,

expressing gratitude, nurturing physical and emotional health, and standing up for self and others. Life skills and core values are linked to curricular lessons highlighting identity (self-care and self-awareness), connectedness (selecting and keeping healthy relationships), and empowerment (celebrating and sharing our strengths). Other lessons focus on making a meaningful contribution to community. Learning goals are attained using structured activities and strategies in the GOTR Toolbox, such as Star Power (positive self-visualization), Stop and take a BrThRR (stop, breathe, think, respond, and review), being a Stand-Byer (responding to bullying in a positive way), and "I feel . . . when you . . . because . . . I would like for you to . . ." (a strategy to stand up for oneself and constructively express feelings). A celebratory 5k event culminates the season, with strong participation by family and community members.

GOTR coaches are systematically trained to deliver the life skills curriculum, emphasizing three concepts captured by the acronym BPM: (1) Building supportive and caring relationships (between coaches and girls and among the girls); (2) creating a Positive, inclusive environment (accepting everyone and their unique qualities); and (3) fostering a Mastery climate (emphasizing personal effort and improvement and providing girls with voice and choice). These concepts are explicitly situated within the social-contextual features of effective PYD programs (11), as are other coaching qualities (eg, creating an emotionally and physically safe environment, ensuring all girls are included, providing consistent structure and clear expectations, partnering with families and schools). GOTR is committed to access and inclusion for *all* girls by providing training for coaches in safety and youth protection and resources for ensuring the participation of youth with cognitive, physical, and sensory disabilities. To date, GOTR has served 2 million girls in all 50 states, with about 45% receiving financial support for registration. All head coaches are female to provide role models for the girls.

Previous studies of GOTR participation outcomes were characterized by design or methodological limitations. First, studies employed pre–post-only designs with just GOTR participants (eg, 8,34). Without a comparison group, it is uncertain whether season-long improvements are attributable to the program and not to other factors, such as maturation or other activities (eg, sport) and contexts (eg, school). Second, the measures were not compatible with GOTR's *Five Cs* PYD philosophy, curriculum, or primary goals (eg, 4,31). Third, some measures were not appropriate for third to fifth graders, showed low reliability, or used altered response formats without validity (eg, 9,34). Finally, some studies collected baseline data after the season began and posttest data before the season ended (eg, 23), or had coaches or teachers administer surveys (eg, 8,12), which is prone to socially desirable responses and ceiling effects. These design, measurement, and procedural features limit conclusions about program impact. Ullrich-French and colleagues (38,39) improved upon earlier studies by employing a community-based participatory approach, mixed methods (surveys and focus groups), and multiple stakeholder input. However, coaches administered surveys, pretesting occurred after the season began, and some validated measures used altered response formats.

The present study represents a companion paper of our comprehensive project evaluating the impact of GOTR in promoting PYD (48), by improving upon past studies. In our first article, we addressed the question, "Do *Girls on the Run* participants show improvements from preseason to postseason on PYD (*Five Cs*, physical activity, sedentary behavior) and retain improvements at

follow-up 3 months after the season's end?" We provided evidence of impact based on data using a longitudinal design, constructs compatible with the *Five Cs* philosophy of GOTR, developmentally appropriate and valid survey measures, mixed methods, and multiple stakeholders in focus groups. The strongest season-long gains emerged for girls who began the program with the lowest scores, which were sustained or continued to improve at the retention assessment. The findings revealed season-long improvement in the *Five Cs* (eg, perceived social competence, global self-esteem, social responsibility) and physical activity (number of days/week of ≥ 60 min), and a reduction in sedentary behavior (watching TV and playing video games). Focus groups with girls, coaches, caregivers, and school personnel revealed common responses, that participating in GOTR produced positive change in girls' social and emotional behaviors and contributed to girls' physical, nutritional, emotional, mental, and social health.

In the present study, we extend our evaluation of program impact by focusing on our second question: "Do *Girls on the Run* participants differ from a comparison group at postseason on life skills learning and transfer?" We used rigorous methods to address impact. First, we employed a comparison group of girls who did not participate in GOTR, testing whether any differences on life skills transfer are attributable to program characteristics (eg, intentional curriculum, trained coaches). Second, based on GOTR coach training, we assessed the social processes of relatedness (feelings of connectedness with coaches and peers) and coach autonomy support (eg, perceptions of coaches providing choice) to determine whether differences would emerge for the GOTR and comparison groups. Third, we conducted a retention assessment with the GOTR girls 3 months after the season's end, when girls were no longer exposed to life skills lessons, to determine whether life skills transfer was enduring. Fourth, we used mixed methods—valid and age-appropriate questionnaires and focus groups with youth, coaches, caregivers, and school personnel—to gather information about life skills learning and transfer. We hypothesized that the GOTR girls would score higher than the non-GOTR girls on life skills transfer, due to the intentional curriculum, and that relatedness and coach autonomy support would be viewed more favorably by the GOTR girls due to their emphasis in coach training. Finally, we expected life skills transfer to remain stable at retention, suggesting a lasting effect of participating in GOTR.

Method

Participants: Questionnaires

A total of 215 girls participating in GOTR ($M_{\text{age}} = 9.38$ y, $SD = 0.88$) and 692 girls who did not participate in GOTR ($M_{\text{age}} = 9.47$ y, $SD = 0.86$) provided complete survey data at the preseason and postseason assessments. All girls were in grades 3, 4, or 5 for both assessments. The participants were recruited from 13 schools in 3 geographical regions of the GOTR network. The councils and schools were selected based on several inclusion criteria (see 48 for details), in collaboration with GOTR's national office. At the preseason assessment, responses to the items, "Do you participate in an after-school activity program?" (yes, no) and, "If you circled Yes, list up to 2 activities," revealed that 70% of the girls in the non-GOTR group indicated participating in an afterschool sport or physical activity program, whereas 30% did not identify any afterschool sport or physical activity program. While all girls had school physical education (PE), the latter group *only* participated in PE

but no other sport or physical activity program. Thus, we explored our research question by comparing the GOTR girls to the Sport ($n = 485$)¹ and PE ($n = 207$) groups. The 3 groups were asked to respond to survey measures based on their unique physical activity experience (GOTR, Sport, and PE). The girls in the comparison groups were in the same classrooms, grades, and schools as the girls in GOTR.¹¹ The 3 groups differed in the number of years involved in their activity: GOTR ($M = 1.62$ y, $SD = 0.89$); Sport ($M = 3.14$ y, $SD = 1.59$); and PE ($M = 3.84$ y, $SD = 1.51$).

Race/ethnicity was diverse for all groups. The GOTR girls self-identified as White (65.6%), Latina (10.7%), African American (8.8%), Multiracial (7.0%), Native American (2.3%), Asian (1.4%), and other (4.2%). The Sport and PE groups identified, respectively, as White (59.6% and 54.1%), Latina (9.1% and 15.5%), African American (9.1% and 7.7%), Multiracial (12.8% and 10.6%), Native American (3.5% and 4.8%), Asian (2.3% and 4.8%), and other (3.3% and 2.4%).

Participants: Focus Group Interviews

A subsample of GOTR girls ($n = 17$), coaches ($n = 19$), caregivers ($n = 10$), and school personnel ($n = 14$) volunteered to participate in focus groups. The girls averaged 9.5 years old and identified as African American ($n = 7$), White ($n = 6$), and Latina, Asian, Multiracial, and other ($n = 1$ for each). The coaches were female ($M_{\text{age}} = 38.1$ y) and were head or assistant coaches ($M_{\text{age}} = 5.1$ y); 17 were White and 2 were African American. Sixteen coaches were classroom or specialty teachers, and the other 3 were educators in some capacity. The caregivers were mothers and grandmothers ($M_{\text{age}} = 44.0$ y); 6 identified as White, and 4 identified as African American. The 14 school personnel were female ($M_{\text{age}} = 41.6$ y) and worked at their school on average for 11 years. They identified as White ($n = 8$), African American ($n = 4$), Multiracial ($n = 1$), and other ($n = 1$). Most were teachers ($n = 10$), and the others listed educator, occupational therapist, and parent coordinator as their profession.

Questionnaires

Life Skills Transfer. We administered the *Life Skills Transfer Survey* (LSTS), which was validated for youth participating in sport programs (45). Scales were chosen that aligned with 4 of the life skills taught in GOTR: managing emotions (3 items), resolving conflicts (3 items), helping others (4 items), and making intentional decisions (3 items). The girls were first instructed to write down their current sport or physical activity (eg, GOTR, soccer, dance), and to write PE if they did not participate in an organized sport or physical activity program. They were then told to think about the activity they wrote down when answering all the items. The stem for each item, "Because of participating in *Girls on the Run*" ("Because of participating in my activity" for comparison groups) was followed by a behavior exemplifying the life skill (eg, "I calm myself down when I get frustrated," "I listen to my friend when we have a disagreement"). Responses were given on a 5-point scale ranging from "really not true for me" to "really true for me." The researchers verbally introduced and walked participants through the example items for the LSTS to ensure comprehension and accentuate that responses should reflect the degree to which they learned behaviors *because of* participating in their activity and not because of what they learned from other sources. The LSTS has shown construct validity and internal consistency reliability with youth participants (45,46).

Peer and Coach Relatedness. Feelings of connectedness with teammates and coaches were assessed using the relatedness subscale of the *Basic Psychological Needs Scale* (5). The girls were prompted to write down their activity (GOTR, sport, and PE) and to think about this activity when answering the items. The girls who wrote down PE were instructed to respond for their classmates (instead of teammates) and their PE teacher (instead of coach). Four items targeted peer relatedness (eg, “I get along with my teammates”), and 4 items targeted coach relatedness (eg, “My coaches care about me”), with responses given on a 5-point scale ranging from “really not true for me” to “really true for me.” This scale has shown construct validity and internal consistency reliability with youth sport participants (eg, 18).

Coach Autonomy Support. The *Sport Climate Questionnaire* (4) assessed the degree to which the girls perceived that their coach provided opportunities for choice, showed understanding, listened to them, encouraged questions, and showed confidence in their ability to do well. The girls responded to items based on their activity (GOTR, sport, and PE) on a 6-point scale ranging from “strongly disagree” to “strongly agree.” The girls who wrote down PE were instructed to respond for their PE teacher. Example items included “my coach provides me choices and options,” and “my coach encourages me to ask questions.” This scale has shown construct validity and internal consistency reliability with youth sport participants (eg, 18).

Focus Group Interviews

Separate and parallel-structured interview guides were prepared for youth and adult stakeholders (19,28). The questions delved into whether and how girls learned life skills through participating in GOTR, and follow-up probes solicited examples of generalizing skills to other domains. A moderator conducted each interview, and an assistant distributed consent forms, took notes, and summarized the responses at the end of the session. The interviews began with the moderator’s welcome and guidelines for the session, followed by interviewees’ introductions and warm-up questions (eg, “What are some things you like about GOTR?”). The main questions included the following: (1) “What kinds of things have you learned at GOTR?” (“What kinds of things do girls learn at GOTR?”) and (2) “Have you used any skills or strategies learned at GOTR in situations at school, at home, in your neighborhood, or in other situations?” (“Have you heard or observed whether girls use skills learned at GOTR in situations at school, at home, in the neighborhood, or in other situations?”). The probes were deliberate to solicit convincing examples that corroborate whether skills were learned in GOTR and where and how skills were generalized to situations outside the program.

Procedure

After identifying GOTR councils and schools (48), we obtained study approval from school district administrators, school principals, and the first author’s university institutional review board. Prior to data collection, we secured youth assent and parental consent, as well as consent from the adult focus group participants. The first author made site visits to all 13 schools in 3 cities and met with principals, site liaisons, and teachers to explain what the data collection would entail, distribute an informational letter to the parents, and discuss the procedures, days, times, and locations for administering the survey to all girls in grades 3, 4, and 5. To minimize burden to the schools and on teaching schedules, all

stakeholders agreed to a 30-minute window of time for the girls to complete the surveys. This target informed the number of survey items and precise instructions for completion. The preseason survey was administered 1 to 2 weeks prior to the start of the GOTR season (February or March), and the postseason survey was administered within 1 week after the GOTR season ended (May or June). Multiple researchers traveled from a long distance to collect data from schools within each city according to a detailed itinerary. The researchers administered surveys to all girls in grades 3, 4, and 5 by individual school.ⁱⁱⁱ Surveys were administered to groups of girls in classrooms, libraries, or cafeterias and completed within 30 minutes. A retention assessment was conducted with the GOTR participants 3 months after the season’s conclusion to determine whether life skills transfer remained stable once the lessons ended. This assessment was conducted at the beginning of the following school year and was purposely timed before the next GOTR season started. Focus groups were conducted for youth, caregivers, coaches, and school personnel at each of the 3 councils at postseason, for a total of 12 focus groups. Responses by stakeholder group were combined for analysis. The focus groups lasted on average 45 minutes for the girls and school personnel and 60 minutes for the coaches and caregivers.

Data Analysis

First, we assessed structural validity (confirmatory factor analysis) and internal consistency reliability (Cronbach alpha) for life skills transfer, peer and coach relatedness, and coach autonomy support. Second, participants were nested within schools, so we conducted intraclass correlation analyses to determine whether multilevel modeling was warranted to account for variation between schools in testing for group differences. The intraclass correlations were $<.05$ for all variables, indicating that multilevel modeling was not necessary or advised (14). Thus, multivariate analyses of variance (MANOVA) were conducted to compare the girls in GOTR with the girls in the comparison groups (Sport and PE) on life skills transfer and social processes. We employed type II sums of squares to account for the unequal sample sizes of the GOTR, Sport, and PE groups (36). Statistically significant multivariate values were followed by analyses of variance (ANOVA) to determine which variables contributed to group differences. The effect size (ES) for group differences was assessed using Cohen d (6): $d \geq .20$ = small, $d \geq .50$ = medium, and $d \geq .80$ = large effects. Third, repeated-measures MANOVA assessed whether the scores for life skills transfer at postseason remained stable at a retention assessment 3 months after the season’s end.

For the focus groups, we conducted deductive and inductive content analysis to identify words, phrases, and sentences that captured themes representing skills and strategies learned through participating in GOTR. We followed data analysis guidelines recommended by qualitative sources (eg, 19,28) and used in PA-PYD research (eg, 49). Two researchers independently read the transcriptions and coded the narrative to serve as data units. They met to discuss and reach consensus on data units to include in subsequent steps, which included combining data units to form lower-order and higher-order themes. Trustworthiness was achieved in 3 ways (28). First, all researchers involved in conducting and analyzing the interviews were knowledgeable and trained in qualitative methods and had conducted interviews with children in previous studies. Second, the data were triangulated through responses from 4 stakeholder sources (youth, caregivers, coaches, and school personnel). Third, we employed member

checking at the end of each focus group session by verbally summarizing the emergent themes and inviting input from the participants on adding or revising information.

Results

Psychometric Properties of Measures

Confirmatory factor analysis was conducted using LISREL (Scientific Software International, Inc., Chicago, IL, USA) to determine structural validity of the measurement scales. Goodness of fit for factor models was determined using non-normed fit index, comparative fit index, goodness-of-fit index, and root mean square error of approximation (RMSEA). Each of the LSTS scales showed a good model fit (37) at postseason and retention (indices > .95, RMSEA < .05), and all factor loadings were statistically significant ($P < .05$). Good-fitting factor models also emerged for peer and coach relatedness and coach autonomy support (indices > .95, RMSEA \leq .05; factor loadings $P < .05$).

Alpha coefficients $\geq .70$ are generally deemed to be an index of acceptable internal consistency reliability. The values for the LSTS scales at postseason were .74, .73, .81, and .67 for managing emotions, resolving conflicts, helping others, and making intentional decisions, respectively. Although the alpha for decision making fell slightly below .70, this measure was retained due to the strong model fit attained in confirmatory factor analysis. At retention, the alpha coefficients were acceptable for all 4 scales (.76, .73, .84, and .78). The social processes achieved acceptable alpha values (peer relatedness = .85, coach relatedness = .89, coach autonomy support = .84).

Group Comparisons: Life Skills Transfer

The MANOVA was statistically significant for GOTR v. Sport, Wilks $\lambda = .950$; $F_{4,695} = 9.09$; $P < .001$; $\eta^2 = .05$. Follow-up ANOVAs ($P_s \leq .03$) revealed that all 4 life skills favored the girls in GOTR. They reported a stronger ability to manage emotions (eg, calm themselves when getting frustrated); resolve conflicts (eg, work out a disagreement with a friend); help others (eg, stand up for others); and make intentional decisions (eg, think before making an important decision). ESs were small-to-medium. Since the girls in the sport programs averaged 3.14 years of involvement compared with 1.62 years for the girls in GOTR, the findings suggest that favorable scores for GOTR emerged even though the girls experienced considerably less time in skill-

building opportunities. The MANOVA was statistically significant for GOTR v. PE, Wilks $\lambda = .927$; $F_{4,417} = 8.25$; $P < .001$; $\eta^2 = .07$. The follow-up ANOVA ($P_s \leq .002$) indicated that the girls in GOTR scored higher than the girls in PE for all 4 life skills—manage emotions, resolve conflicts, help others, and make intentional decisions. ESs were small-to-medium. Table 1 shows the descriptive statistics and ESs for GOTR v. Sport and PE groups on all outcome variables.

Group Comparisons: Social Processes

The MANOVA was statistically significant for GOTR v. Sport, Wilks $\lambda = .982$; $F_{3,696} = 4.21$; $P = .006$; $\eta^2 = .02$. Follow-up ANOVAs indicated that coach relatedness ($P > .05$) and autonomy support ($P > .05$) were not different between groups, but the scores for teammate relatedness ($P = .008$) were higher for Sport ($M = 4.26$) than GOTR ($M = 4.09$), although both scores are high on the 5-point scale. The Sport girls rated that they get along better with their teammates and more strongly consider their teammates to be friends. The MANOVA was statistically significant for GOTR v. PE, Wilks $\lambda = .923$; $F_{3,418} = 11.69$; $P < .001$; $\eta^2 = .08$. Follow-up ANOVAs ($P_s \leq .001$) revealed that girls in GOTR scored higher on all 3 social processes (see Table 1). The girls in GOTR reported getting along better with their coaches, liking their coaches more, and feeling more strongly that their coaches cared about them (relatedness), as well as rating coaches higher in providing choices, encouraging them to ask questions, and showing confidence in their ability to do well (autonomy-supportive behaviors). Higher scores on peer relatedness mean that the girls in GOTR perceived stronger friendships with team members. ESs were small-to-medium.

Life Skills Transfer: Postseason to Follow-Up Assessment

We conducted a retention test 3 months after the season ended to determine whether perceptions of learning life skills attributable to GOTR were sustained once program exposure ended and before the next season started. Stable scores from postseason to follow-up would indicate that the girls maintained their belief in their ability to generalize life skills to other situations *because of* participating in GOTR (ie, learning effect). Of 215 study participants at post-season, we were successful in retaining 203 girls at the follow-up assessment for a 94% return rate.

The repeated-measures MANOVA was not statistically significant, Wilks $\lambda = .961$; $F_{4,199} = 2.03$; $P > .05$. Managing emotions

Table 1 Means, SDs, and Effect Size (Cohen *d*) for Study Variables by Group

Variable	GOTR		Sport			PE		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>d</i>	<i>M</i>	<i>SD</i>	<i>d</i>
Managing emotions	3.64	0.85	3.25	1.02	0.42	3.24	0.98	0.44
Resolving conflicts	3.59	0.83	3.23	0.99	0.40	3.29	0.94	0.34
Helping others	3.89	0.78	3.73	0.92	0.18	3.64	0.89	0.30
Making intentional decisions	3.84	0.84	3.56	0.89	0.32	3.38	0.90	0.53
Coach autonomy support	4.83	0.87	4.80	0.94	0.03	4.30	1.03	0.56
Coach relatedness	4.51	0.75	4.49	0.71	0.03	4.16	0.81	0.45
Teammate relatedness	4.09	0.76	4.26	0.78	-0.22	3.83	0.81	0.34

Abbreviations: GOTR, *Girls on the Run*; PE, physical education. Note: Cohen *d* indicates magnitude of the difference between each comparison group and the GOTR group. A positive effect size indicates GOTR girls scored higher.

remained stable over time, with scores closest to “true for me” (3.649 → 3.614), for example, “because of participating in GOTR, I calm myself down when I get frustrated.” Stability also emerged for resolving conflicts (3.588 → 3.624), “I share how I feel when I disagree with a friend,” and for helping others (3.898 → 3.893), as in listening to and comforting others when they are upset. Although the scores for intentional decision making (eg, “I stop and think about what might happen before making a big decision”) slightly declined from postseason to follow-up (3.833 → 3.678), both values are still interpreted as “true for me.” These findings mean that, 3 months after the season’s conclusion and with no further life skills lessons, the girls were still attributing their ability to manage emotions, resolve conflicts, help others, and make intentional decisions to their experiences in GOTR.

Focus Group Findings

The respondents shared their perspectives about the behaviors and skills the girls learned in GOTR and examples of using learned skills and strategies in other social contexts.

What Kinds of Things Have You Learned (Do Girls Learn) at GOTR? Many common higher-order themes emerged: *standing up for self and others*, *positive emotional behaviors*, *self-acceptance*, and *positive social behaviors*. Lower- by higher-order themes for stakeholders can be seen in Table 2, which align

with curricular lessons on helping others, managing emotions, resolving conflicts, and making intentional decisions. Unique themes also emerged. The girls and coaches named *making good choices*, which centered on choosing the right friends and knowing whom to trust, and an *attitude of gratitude*, while the caregivers included *setting and accomplishing goals*, particularly meeting the common 5k goal. The school personnel elaborated on *community building*, with lower-order themes of community service, giving to others who need help, giving back to community, and sharing resources. Themes unique to one or more stakeholders are also reflective of curricular content and targeted life skills.

Quotations add depth to the themes. Dani^{IV} shared how the “stop and take a BrThRR” strategy helps her manage her emotions when she is being teased: “If you’re having a problem and someone is like picking on you, or making you feel bad about yourself and angry, you just need to like stop and then think and then breathe and then respond, so that kind of helps when you don’t really want to backfire with them.” Ariel explained how the lesson on inner beauty enables her to accept herself and stay positive: “We did inner beauty . . . where like you don’t want to like put negative stuff into your brain that people, like if they say that you’re not pretty or not smart . . . you try to find the way to stay to the positives . . . you’re pretty inside and out.” A coach/teacher shared the following story: “Girls in my class saw a boy standing up for someone else, so they told him about being a stand-byer instead of

Table 2 Focus Group Responses for What Girls Learn by Participating in Girls on the Run

Higher-order theme	Lower-order themes			
	Girls	Coaches	Caregivers	School personnel
Standing up for self and others	<ul style="list-style-type: none"> • How to stop bullying • How to be a stand-byer • Helping others being bullied • Standing up for self • Standing up for others • Empowering ourselves 	<ul style="list-style-type: none"> • Being a stand-byer • Teaching others to be a stand-byer • Building a community of stand-byers 	<ul style="list-style-type: none"> • Standing up for self • Dealing with bullying and peer pressure • Reinforcing sense of social justice • Dealing with peers 	<ul style="list-style-type: none"> • Standing up to peer pressure • Standing up for self and others
Positive emotional behaviors	<ul style="list-style-type: none"> • Handling anger • Staying positive • Expressing feelings • Saying positive words about self • Stop and take breather to deal with peer pressure • Using “I feel, when you, because” strategy 	<ul style="list-style-type: none"> • More self-aware of emotions • More self-aware of actions • Reflecting on behaviors 	<ul style="list-style-type: none"> • Handling adverse consequences with confidence • Learning to be independent • Building confidence 	<ul style="list-style-type: none"> • Confidence to share opinions • Empowerment • Taking ownership of body • Learning to be resilient • Learning to not give up
Self-acceptance	<ul style="list-style-type: none"> • Being yourself • What makes you unique • Star power • How to love yourself • Inner beauty • We all have unique positive qualities • We can think alike and differently 	<ul style="list-style-type: none"> • Inner beauty • Feeling good about themselves • Self-acceptance 	<ul style="list-style-type: none"> • Positive self-image • Okay to be different • Learn to be an individual • Look at self positively • Self-esteem • Gets to be herself/Gets to be a kid • Accepting self 	
Positive social behaviors	<ul style="list-style-type: none"> • Thinking of others • How to work together • Accepting help from others • Cooperating with others 	<ul style="list-style-type: none"> • Enabling others to lead • Learning from others • Learning to get along • Teamwork • Making new friends • Telling others not to gossip 	<ul style="list-style-type: none"> • Interacting with new/different people • Accepting others • Tolerating differences • Teaching others to be active • Learning to be a buddy • Interpersonal skills 	<ul style="list-style-type: none"> • Team building • Saying positive things to others • Making different friendships • Making positive friendships • Encouraging each other • Forcing shy kids out of comfort zone • Bringing girls closer together

a bystander . . . we do shout-outs at our school, so they gave him a shout-out and then they did a class lesson and told everybody about it, so now our whole class discusses that and tries to point it out if they see it and recognize each other . . . now it's this whole little class community of stand-byers. . . they taught their peers."

Have You Used (Heard or Observed Whether Girls Use) Skills Learned at GOTR in Situations at School, Home, or Neighborhood, or in Other Situations? The girls responded with many examples of using skills and strategies to manage emotions, resolve conflicts, and stand up for self and others. Prominent strategies were "stop and take a BrThRR" (stop, breathe, think, respond, and review) for reducing negative emotions, and "I feel . . . when you . . . because . . . I would like for you to," for resolving disagreements. Table 3 displays examples of contexts, situations, issues, and strategies. Tessa discussed how she uses strategies learned at GOTR to deal with peer pressure at school: "So my friend, she peer pressures me to do stuff . . . she asks me to do something and if I tell her no, she will say, 'Oh, I'm not your friend' . . . so I had to stop and take a breather, but for my response I use, 'I feel, when you' and I told her that I get like mad when you tell me to do things that I don't want to do, because it's not the right thing to do, and when I say 'no' it's because I don't want to do it, and sometimes you get me in trouble, and I said, 'I would like for you to stop asking me to do things.'"

Because most coaches were also classroom teachers, they were able to offer examples of hearing about or observing girls using strategies learned at GOTR in other situations. Table 4 displays the situations and strategies presented by the coaches. One coach/teacher shared, "A lot of mine have said at home with their siblings, 'I used the stop and take a breather' and the 'I feel when you, because' . . . A lot of them have said, 'my brother was driving me crazy last night, I used I feel annoyed when you keep tapping on me because . . . and I would like for you to go play by yourself' . . . they were using the vocabulary at home with siblings and stopping before they like take their heads off and thinking about it first." Similarly, school personnel gave examples in school situations, such as problem-solving, leadership and teamwork skills, stamina and focus on academic tests, and organizational skills in the classroom.

The caregivers shared general examples of the girls using learned skills in other situations but were unable to describe a specific strategy to resolve a conflict with a sibling, reduce anger about a bad grade, or deal with peer pressure. One mother enthusiastically shared that her daughter was able to calm down her brother: "My son is five and he and his sister don't like each other most of the time. The other day, he was really upset about something and he was in his room . . . I went in to talk to Georgie and I said, "Sissy, go talk to your Bubba . . . he won't listen to me . . . she's sitting on her floor and she goes, 'hmm . . . trying to think

Table 3 Girls' Examples of Using Skills and Strategies Learned at Girls on the Run in Other Contexts

Context	Situation	Issue	Strategy
School	Playground/Peers	Stand up for self	Star power
School	Classmate	Stand up for self	Stop and take breather
School	Friend	Peer pressure	Stop and take breather
School	Friend	Peer pressure	I feel, when you, because, I would like for you to . . .
School	Friend	Resolve Conflict	Stop and take breather
Home	Brother	Manage emotions	Stop and take breather
Home	Brother	Manage emotions	Stop and take breather
Home	Brother/Cousin	Resolve conflict	Stop and take breather
Home	Sister	Resolve conflict	Stop and take breather
Home	Mother	Resolve conflict	I feel, when you, because, I would like for you to . . .
General	Teaching Friends	Express feelings	I feel, when you, because, I would like for you to . . .

Table 4 Coaches' Examples of Hearing About or Observing Girls Using Skills and Strategies Learned at Girls on the Run in Other Contexts

Context	Situation	Issue	Strategy
School	Test	Manage emotions	Stop and take breather
School	Academic	Increase Confidence	Set goals
School	Academic	Increase Confidence	Star power
School	Student Government	Develop Leadership	Stand up for others
School	Recess	Resolve conflict	I feel, when you, because, I would like for you to . . .
School	Lunch	Manage emotions	Stop and take breather
School	Teach Peers and Adults	Adopt a positive attitude	Change negative self-talk to positive self-talk
Home	Brother	Manage emotions	Stay calm, express feelings
Home	Brother	Resolve conflict	Stop and take breather
Home	Neighbors	Resolve conflict	Stay calm, respond with respect
Home	Parents	Discuss difficult topics	Make decision to initiate conversation
Soccer	Teammates	Resolve conflict	Stand up for self

about GOTR strategies. Aha! I got it' . . . she ran into his room and he was fine after that." The interviewer probed to see if the mother could identify the strategy her daughter used to defuse the situation, but she was unable to.

The focus group results suggest that GOTR is having a positive influence on teaching social, emotional, and behavioral competencies that are beneficial for situations outside of the program. These competencies represent life skills emphasized in the curriculum; for example, standing up for others aligns with *helping others*, handling anger and staying positive signifies *managing emotions*, the "I feel, when you, because" strategy exemplifies *resolving conflicts*, and making friends with different people represents *intentional decision making*.

Discussion

The purpose of this study was to evaluate the effectiveness of GOTR in teaching life skills by using comparison groups, a retention assessment to determine whether life skills scores were sustained, quantitative and qualitative methods, age-appropriate survey measures, and multiple stakeholders in focus groups. We employed these design features to evaluate program impact on PYD—extending our assessment of change over time in the *Five Cs* (competence, confidence, connection, character, and caring), physical activity, and sedentary behavior from preseason to post-season to a 3-month follow-up (48). In the following paragraphs, we summarize the key findings and discuss processes that help to explain group differences on life skills transfer, notably GOTR's intentional curriculum and trained coaches.

The survey methods revealed that girls in GOTR more strongly attributed life skills learning to their activity compared with the Sport and PE groups. The girls rated their ability higher *because of* participating in GOTR for managing negative emotions, settling disagreements with friends, helping others by listening, and being intentional about making important decisions. The ability to generalize learned skills to other contexts, such as school (eg, academic testing) and home (eg, sibling conflict), is a distinguishing feature of PA-PYD programs compared with youth sport and PE programs, which may not include an intentional life skills curriculum (30,44). The favorable ratings for the girls in GOTR are especially noteworthy, given that they were in the program for half the number of years compared with the girls in Sport and PE, showing that GOTR is having a positive impact on life skills learning in much less time. The retention assessment showed that postseason scores were maintained 3 months after the season's end, indicating lasting rather than temporary program impact. Including a retention test is important to ensure that any season-long improvements are not just a "glow effect," but rather a more enduring outcome.

We attribute favorable group differences on life skills transfer to GOTR's intentional curriculum and coach training, which is designed to maximize fidelity in delivering lessons. The curriculum is structured to teach psychosocial and behavioral skills and healthy attitudes that generalize beyond GOTR, including managing emotions, resolving conflicts, helping others, and intentional decision making. Strategies to facilitate life skills learning are referred to as the GOTR Toolbox and include Star Power (visualizing oneself in a positive light), reframing negative self-talk to positive self-talk, adopting an attitude of gratitude, "stop and take a BrThRR" (managing emotions), and the phrases, "I feel . . . when you . . . because . . . I would like for you to" (eg, standing up for oneself). These strategies were effectively taught, as shown in the stronger

scores on the scales tapping specific life skills taught in the program. Based on mandatory training, GOTR coaches focus on helping girls achieve desired attitudes and behaviors by emphasizing BPM: Building relationships; creating a Positive, inclusive environment; and fostering a Mastery climate, concepts connoting evidence-based social and motivational processes for maximizing positive developmental outcomes (17,47).

The girls in GOTR showed favorable responses for life skills transfer, and the scores were stable at retention, but the effect sizes were small-to-medium, suggesting unexplained variance. Given the ecological systems theories undergirding PYD, youth are influenced by the array of social contexts in their lives, including family, school, peers, and extracurricular activities (10,21,22). The impact of an activity or context depends on factors such as the amount of time spent on it, quality of the experiences, intentionality of learning opportunities, individual characteristics (eg, skill level, maturity status), and degree to which the outcome of interest is highlighted (35,41). For example, our sample of Sport girls averaged over 3 years of engagement, showing sustained frequency, duration, and motivation. This might explain equivalent coach relatedness and autonomy support, and higher teammate relatedness, compared with the GOTR girls. In addition, helping others showed the smallest ES for GOTR v. Sport and PE. Many school and afterschool activities, as well as family and academic contexts, promote civic engagement and altruistic behaviors, so girls may learn to help others in various settings. Simpkins (35) suggests that a small effect size can represent a meaningful influence of participation due to the multitude of sources and relationships in youths' social ecology. Thus, we consider significant differences between the GOTR and non-GOTR groups on life skills transfer as evidence of positive impact.

The group findings were mixed for social processes, including peer and coach relatedness and autonomy support. The girls in GOTR scored favorably compared with the girls in PE, but they were similar to the girls in Sport on coach relatedness and autonomy support and lower on teammate relatedness. Higher scores on teammate relatedness for the girls involved in organized sports indicate perceptions that they get along better with teammates and consider them to be better friends. The girls' 3-plus years of involvement in their selected sport compared with half that span for GOTR may explain higher teammate relatedness, since they had more time to play together, learn to get along, and establish friendships. Equivalent and high scores for coach relatedness and autonomy support for the GOTR and Sport girls, despite fewer years of involvement in GOTR, may suggest that the GOTR coaches established positive relationships with the girls through the climate they created in less time. Similar scores may also reinforce findings that youth sport programs are variable in the degree to which the coaches engage in positive feedback, use an autonomy-supportive style, and create a mastery climate (eg, 17,43). We did not collect information on the qualities of the girls' sport experiences; thus, the type, level, and philosophy of certain programs may explain the similarities and differences in coach and teammate processes. Using comparison groups was a strength of our study design, yet future research might strive to collect additional information on the qualities of experiences, which could help to explain differences or nondifferences between target and control groups.

The GOTR participants compared most favorably to the girls in PE (those not participating in any afterschool activity program) on all life skills and social processes. Girls in late childhood are at risk for inactivity and negative health outcomes; movement

opportunities only in PE (maximum 1–2 d/wk for <60 min.) are inadequate to meet the daily recommended physical activity levels and attain health benefits (27). These girls could be a focus of recruiting efforts for PA-PYD programs such as GOTR, which can provide a means for them to enhance physical activity, create social connections with peers and coaches, learn life skills, and improve healthy behaviors.

The stakeholders' voices in focus groups lent a richness to the data on program impact by providing examples of what skills and strategies were applied in the school and home contexts. The youth and adult respondents identified social, psychological, and behavioral competencies learned in GOTR, such as standing up for self and others, self-acceptance, and positive social and emotional behaviors. The girls recalled curricular strategies, such as inner beauty, stop and take a BrThRR, and "I feel, when you, because . . .," and they shared how they used the strategies learned in GOTR to reduce frustration, work out a disagreement, and stand up for themselves. The coaches/teachers gave examples of girls generalizing the learned skills to situations at school, such as by remaining calm while taking a test, showing leadership skills in the classroom, changing negative self-talk to positive self-talk, and standing up for others. Evaluation studies of *Teaching Personal and Social Responsibility* (42) and *The First Tee* (49) also provided qualitative evidence of program impact in teaching skills and strategies that were transferred to school, family, and other social contexts.

An unexpected finding was that caregivers, while forthcoming about the positive skills that girls learn in the program (eg, positive social and emotional behaviors), were not articulate about describing curricular strategies that the girls used in situations outside GOTR. They were unable to name particular "tools" (eg, stop and take a BrThRR) taught in GOTR to deal with peer pressure or cope with school demands. This was surprising because caregivers are in a good position to observe examples of life skills transfer. Because organizations desire that caregivers reinforce what is taught in the program, we recommended that the Grown-Up Guide (a resource outlining each lesson's purposes and strategies) be revised to encourage more frequent caregiver/child interactions and strengthen the effect of lessons taught in GOTR. As a result, the organization engaged in a network needs assessment with parents to determine the preferred format of the Grown-Up Guide (ie, paper, email, text) and to solicit feedback on improving conversation starters and making the lesson content more accessible for busy parents. Although caregivers are an important source for providing evidence of life skills learning, few studies have included their perspective on the impact of out-of-school-time PA-PYD programs (eg, 32,49).

Despite strong design features, we note some limitations of our study. First, life skills transfer was assessed through self-report and complemented by focus groups with subsamples of GOTR stakeholders. Other qualitative methods, such as teacher observations, journaling by participants, and field notes by program staff (eg, 42), could add to understanding program impact on life skills transfer. Second, the necessity of keeping the questionnaires short due to the girls' age and not burdening the schools meant that we assessed certain social processes, but other sources of influence, such as coach feedback patterns and peer motivational climate, might uncover additional means by which GOTR differed from other programs. Third, the focus group participants consisted of those volunteering to share their views, which may explain why negative aspects of the program did not emerge. Fourth, selection bias is possible due to nonrandom group assignment. However, random assignment is not realistic for evaluating a real-world program

where researchers and organizations collaborate and mutually agree on accomplishing goals (2). Youth-serving programs are interested in how effective they are with real people doing real activities in the real world (ie, priority on external validity). Thus, studies are needed in ecologically valid settings to assess whether a program is effective under typical conditions (10). Patton (29) discusses the necessary cooperation and trade-off between researchers and practitioners to conduct an evaluation that meets the standards of feasibility, utility, propriety, accuracy, and accountability. We pursued this path through discussions with program administrators, council directors, and school personnel. Therefore, we believe the strong external validity outweighs the reduction in internal validity from our nonrandomized design.

Conclusion

The survey and focus group data provide strong evidence that GOTR is having a positive impact on promoting PYD. The intentional life skills curriculum, coach training to deliver lessons with fidelity, and social-contextual features underpinning PYD (eg, appropriate structure, physical and psychological safety, inclusion of all members, positive social norms) (11), explain the favorable group differences on life skills transfer and in less participation time compared with the girls in organized sport and PE. Our study design improved upon past evaluation studies by including comparison groups, a retention assessment, mixed methods, valid age-appropriate measures, and multiple stakeholders. Collectively, the current study findings coupled with preseason to postseason to follow-up improvements on the *Five Cs*, physical activity, and sedentary behavior (48) reveal that GOTR is successful in teaching life skills and promoting positive social, psychological, and physical outcomes.

Notes

^IThe most frequent activities were soccer, dance, gymnastics, basketball, and softball (77% of Sport sample).

^{II}Grade distribution was even across groups with ~75% in grades 3 or 4. GOTR: grade 3 = 34.9%, grade 4 = 43.7%, grade 5 = 21.4%; Sport: grade 3 = 25.4%, grade 4 = 49.1%, grade 5 = 25.6%; and PE: grade 3 = 28%, grade 4 = 47.8%, grade 5 = 24.2%.

^{III}All girls in grades 3, 4, and 5 were eligible to serve as a comparison group at preseason and postseason, hence, the larger sample size compared with girls in the GOTR group. GOTR teams range from 15 to 20 girls per team.

^{IV}All names are pseudonyms.

Acknowledgments

This research was supported by a grant awarded to the first author by ReempriseFund, Foundation for the Carolinas. The authors would like to thank Hailee Moehnke, Rebecca Nelson, Lauren Wakabayashi, and Jill Kochanek for their assistance with data entry and Sonali Rajan for helping with data collection. The authors are grateful to *Girls on the Run International* for enabling us to conduct a study of this scope and magnitude and for their support and trust in our work. The authors especially thank Allison Riley, Senior Vice President of Programming and Evaluation, who served as a liaison with the councils and facilitated our research efforts. The authors are thankful to the council directors, coaches, school personnel, and caregivers for their investment of time in our study. Finally, the authors deeply appreciate the girls' participation in the surveys and focus groups and freely sharing their experiences.

References

1. Anderson-Butcher D, Riley A, Amorose A, Iachini A, Wade-Mdivanian R. Maximizing youth experiences in community sport settings: the design and impact of the LiFE sports camp. *J Sport Manage.* 2014;28(2):236–49. doi:10.1123/jsm.2012-0237
2. Armour K, Sandford R, Duncombe R. Positive youth development and physical activity/sport intervention: mechanisms leading to sustained impact. *Phys Educ Sport Pedagog.* 2013;18(3):256–81. doi:10.1080/17408989.2012.666791
3. Bean C, Forneris T. Examining the importance of intentionally structuring the youth sport context to facilitate positive youth development. *J Appl Sport Psychol.* 2016;28(4):410–25. doi:10.1080/10413200.2016.1164764
4. Bean MK, Miller S, Mazzeo SE, Fries EA. Social cognitive factors associated with physical activity in elementary school girls. *Am J Health Behav.* 2012;36(2):265–74. PubMed ID: 22370263 doi:10.5993/AJHB.36.2.11
5. Center for Self-Determination Theory (CSDT). *Metrics and Measures: Questionnaires*, 2019. Retrieved from <http://www.selfdeterminationtheory.org/questionnaires>.
6. Cohen JA. *Statistical Power Analysis for the Behavioral Sciences*. 2nd ed. Hillsdale, NJ: Erlbaum; 1988.
7. Damon W. What is positive youth development? *Ann Am Acad Pol Soc Sci.* 2004;591(1):13–24. doi:10.1177/0002716203260092
8. DeBate RD, Thompson SH. *Girls on the Run*: improvements in self-esteem, body size satisfaction, and eating attitudes/behaviors. *Eat Weight Disord.* 2005;10(1):25–32. PubMed ID: 15943169 doi:10.1007/BF03353416
9. DeBate R, Zhang Y, Thompson SH. Changes in commitment to physical activity among 8–11 year-old girls participating in a curriculum-based running program. *J Health Educ.* 2007;38(5):276–81.
10. Dziewaltowski DA, Rosenkranz RR. Youth development: an approach for physical activity behavioral science. *Kinesiol Rev.* 2014; 3(1):92–100. doi:10.1123/kr.2014-0042
11. Eccles JS, Gootman JA. Features of positive developmental settings. In: Eccles JS, Gootman JA, eds. *Community Programs to Promote Youth Development*. Washington, DC: National Academy Press; 2002:86–118.
12. Gabriel KP, DeBate RD, High RR, Racine EF. *Girls on the Run*: a quasi-experimental evaluation of a developmentally focused youth sport program. *J Phys Act Health.* 2011;8(Suppl 2):S285–94. PubMed ID: 28829708 doi:10.1123/jpah.8.s2.s285
13. Gould D, Carson S. Life skills development through sport: current status and future directions. *Int Rev Sport Exerc Psychol.* 2008;1(1): 58–78. doi:10.1080/17509840701834573
14. Heinrich CJ, Lynn LE. Means and ends: a comparative study of empirical methods for investigative governance and performance. *J Public Admin Res Theory.* 2001;11(1):109–38. doi:10.1093/oxfordjournals.jpart.a003490
15. Hellison D. *Teaching Personal and Social Responsibility Through Physical Activity*. 3rd ed. Champaign, IL: Human Kinetics; 2011.
16. Hellison D, Walsh D. Responsibility-based youth programs evaluation: investigating the investigations. *Quest.* 2002;54(4):292–307.
17. Horn TS. Examining the impact of coaches' feedback patterns on the psychosocial well-being of youth sport athletes. *Kinesiol Rev.* 2019;8(3):244–51. doi:10.1123/kr.2019-0017
18. Kipp LE, Weiss MR. Social influences, psychological need satisfaction, and well-being among female competitive gymnasts. *Sport Exerc Perform Psychol.* 2013;2(1):62–75. doi:10.1037/a0030236
19. Krueger RA, Casey MA. *Focus groups: A Practical Guide for Applied Research*. 3rd ed. Thousand Oaks, CA: Sage; 2000.
20. Lerner RM, Lerner JV. Toward a new vision and vocabulary about adolescence: theoretical, empirical, and applied bases of a “Positive Youth Development” perspective. In: Balter L, Tamis-LeMonda CS, eds. *Child Psychology: A Handbook of Contemporary Issues*. New York, NY: Psychology Press; 2006:445–69.
21. Lerner RM, Lerner JV, Almerigi JB, et al. Positive youth development, participation in community youth development programs, and community contributions of fifth-grade adolescents: findings from the first wave of the 4-H study of positive youth development. *J Early Adolesc.* 2005;25(1):17–71. doi:10.1177/0272431604272461
22. Mahoney JL, Larson RW, Eccles JS, Lord H. Organized activities as development contexts for children and adolescents. In: Mahoney JL, Larson RW, Eccles JS, eds. *Organized Activities as Contexts of Development: Extracurricular Activities, After-school and Community Programs*. Mahwah, NJ: Erlbaum; 2005:3–22.
23. Martin JJ, Waldron JJ, McCabe A, Choi YS. The impact of “Girls on the Run” on self-concept and fat attitudes. *J Clin Sport Psychol.* 2009;3(2):127–38. doi:10.1123/jcsp.3.2.127
24. Martinek T, Hellison D. Learning responsibility through sport and physical activity. In: Holt NL, ed. *Positive Youth Development Through Sport*. 2nd ed. New York, NY: Routledge; 2016:180–90.
25. Melendez A, Martinek T. Life after Project Effort: applying values acquired in a responsibility-based physical activity program. *Rev Int Cienc Deporte.* 2015;44(11): 259–80.
26. Mueller MK, Lewin-Bizan S, Urban JB. Youth activity involvement and positive youth development. In: Lerner RM, Lerner JV, Benson JB, eds. *Advances in Child Development and Behavior*. Amsterdam, Netherlands: Elsevier. 2011:231–49. PubMed ID: 23259194
27. National Physical Activity Plan Alliance. *National Physical Activity Plan*. Columbia, SC: National Physical Activity Plan Alliance; 2016. www.physicalactivityplan.org.
28. Patton MQ. *Qualitative Research & Evaluation Methods*. 3rd ed. Thousand Oaks, CA: Sage; 2002.
29. Patton MQ. *Essentials of Utilization-Focused Evaluation*. Thousand Oaks, CA: Sage; 2012.
30. Petitpas AJ, Cornelius AE, Van Raalte JL, Jones TA. Framework for planning youth sport programs that foster psychosocial development. *Sport Psychol.* 2005;19(1):63–80. doi:10.1123/tsp.19.1.63
31. Racine EF, DeBate RD, Gabriel KP, High RR. The relationship between media use and psychological and physical assets among third- to fifth-grade girls. *J Sch Health.* 2011;81(12):749–55. PubMed ID: 22070506 doi:10.1111/j.1746-1561.2011.00654.x
32. Riley A, Anderson-Butcher D. Participation in a summer sport-based youth development program for disadvantaged youth: getting the parent perspective. *Child Youth Serv Rev.* 2012; 34(7):1367–77. doi:10.1016/j.childyouth.2012.03.008
33. Roth JL, Brooks-Gunn J. What exactly is a youth development program? Answers from research and practice. *App Dev Sci.* 2003; 7(2):94–111. doi:10.1207/S1532480XADS0702_6
34. Sifers SK, Shea DN. Evaluations of *Girls on the Run/Girls on Track* to enhance self-esteem and well-being. *J Clin Sport Psychol.* 2013; 7(1):77–85. doi:10.1123/jcsp.7.1.77
35. Simpkins SD. When and how does participating in an organized after-school activity matter? *Appl Dev Sci.* 2015;19(3):121–26. doi:10.1080/10888691.2015.1056344
36. Tabachnick BG, Fidell LS, eds. *Using Multivariate Statistics*. 6th ed. Boston, MA: Pearson; 2013.
37. Ullman JB. Structural equation modeling. In: Tabachnick BG, Fidell LS, eds. *Using Multivariate Statistics*. 6th ed. Boston, MA: Pearson; 2013:681–785.
38. Ullrich-French S, Cole AN. Exploring participant characteristics in an assessment of changes in psychosocial outcomes in a physical

- activity-based positive youth development programme for girls. *Int J Sport Exerc Psychol*. 2018;16(5):535–54. doi:[10.1080/1612197X.2016.1275740](https://doi.org/10.1080/1612197X.2016.1275740)
39. Ullrich-French S, Cole AN, Montgomery AK. Evaluation development for a physical activity positive youth development program for girls. *Eval Program Plann*. 2016;55:67–76. PubMed ID: [26741783](https://pubmed.ncbi.nlm.nih.gov/26741783/) doi:[10.1016/j.evalprogplan.2015.12.002](https://doi.org/10.1016/j.evalprogplan.2015.12.002)
 40. Ullrich-French S, McDonough MH, Smith AL. Social connection and psychological outcomes in a physical activity-based youth development setting. *Res Q Exerc Sport*. 2012;83(3):431–41. PubMed ID: [22978193](https://pubmed.ncbi.nlm.nih.gov/22978193/) doi:[10.1080/02701367.2012.10599878](https://doi.org/10.1080/02701367.2012.10599878)
 41. Walker J, Marczak M, Blyth D, Borden L. Designing youth development programs: toward a theory of developmental intentionality. In: Mahoney JL, Larson RW, Eccles JS, eds. *Organized Activities as Contexts of Development: Extracurricular Activities, After-school and Community Programs*. Mahwah, NJ: Erlbaum; 2005: 399–418.
 42. Walsh DS, Ozaeta J, Wright PM. Transference of responsibility model goals to the school environment: exploring the impact of a coaching club program. *Phys Educ Sport Pedag*. 2010;15(1):15–28. doi:[10.1080/17408980802401252](https://doi.org/10.1080/17408980802401252)
 43. Weiss MR. Back to the future: research trends in youth motivation and physical activity. *Pediatr Exerc Sci*. 2013;25(4):561–72. PubMed ID: [24214439](https://pubmed.ncbi.nlm.nih.gov/24214439/) doi:[10.1123/pes.25.4.561](https://doi.org/10.1123/pes.25.4.561)
 44. Weiss MR. Positive youth development through physical activity: progress, puzzles, and promise. In: Horn TS, Smith AL, eds. *Advances in Sport and Exercise Psychology*. 4th ed. Champaign, IL: Human Kinetics; 2019:483–502.
 45. Weiss MR, Bolter ND, Kipp LE. Assessing impact of physical activity-based youth development programs: validation of the Life Skills Transfer Survey (LSTS). *Res Q Exerc Sport*. 2014;85(3):263–78. PubMed ID: [25141078](https://pubmed.ncbi.nlm.nih.gov/25141078/) doi:[10.1080/02701367.2014.931558](https://doi.org/10.1080/02701367.2014.931558)
 46. Weiss MR, Bolter ND, Kipp LE. Evaluation of *The First Tee* in promoting positive youth development: group comparisons and longitudinal trends. *Res Q Exerc Sport*. 2016;87(3):271–83. PubMed ID: [27142299](https://pubmed.ncbi.nlm.nih.gov/27142299/) doi:[10.1080/02701367.2016.1172698](https://doi.org/10.1080/02701367.2016.1172698)
 47. Weiss MR, Kipp LE, Bolter ND. Training for life: optimizing positive youth development through sport and physical activity. In: Murphy SM, ed. *Handbook of Sport and Performance Psychology*. New York, NY: Oxford University Press; 2012:448–75.
 48. Weiss MR, Kipp LE, Phillips Reichter A, Espinoza SM, Bolter ND. *Girls on the Run*: impact of a physical activity youth development program on psychosocial and behavioral outcomes. *Pediatr Exerc Sci*. 2019;31(3):330–40. doi:[10.1123/pes.2018-0168](https://doi.org/10.1123/pes.2018-0168)
 49. Weiss MR, Stuntz CP, Bhalla JA, Bolter ND, Price MS. ‘More than a game’: impact of *The First Tee* life skills programme on positive youth development: project introduction and year 1 findings. *Qual Res Sport Exerc Health*. 2013;5(2):214–44. doi:[10.1080/2159676X.2012.712997](https://doi.org/10.1080/2159676X.2012.712997)
 50. Wright PM, Burton S. Implementation and outcomes of a responsibility-based physical activity program integrated into an intact high school physical education class. *J Teach Phys Educ*. 2008;27(2): 138–54. doi:[10.1123/jtpe.27.2.138](https://doi.org/10.1123/jtpe.27.2.138)