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# Perceived Physical Competence, Self-Esteem, and Leadership among Girls: A Program Evaluation of GOALS (Girls Organizing and Learning Sport)

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**Abstract:** This study evaluated a leadership-based physical activity program, *Girls Organizing and* Learning Sport (GOALS), by assessing changes in health behaviours, physical competence, self-esteem, and leadership. Of the 466 participants who enrolled in the program, 102 (22%) completed a pre-and post-program survey containing questions concerning demographics, physical activity, physical competence, self-esteem, and leadership. The GOALS program was held twice (fall 2022/winter 2023) and consisted of two-hour weekly sessions over four weeks at nine different locations. Paired-sample t-tests, Chi-squares, and one-way ANOVA tests were utilized to analyze differences before and after the GOALS program. Results revealed that more participants were involved in school sports, community sports, and regular physical activity post-program (all p's < 0.05). A significant difference was also observed between pre-and post-test scores for physical competence and self-esteem (p's < 0.05). However, the program did not elicit changes in health behaviours or total leadership scores (all p's > 0.05). Moreover, significant results were observed between physical competence difference scores and those who care for their health by exercising (p = 0.025), leadership difference scores and those who take care of their health by exercising (p = 0.044), self-esteem difference scores by program location (p = 0.001), and physical competence difference scores by ethnicity (p = 0.003). Overall, further research into the design, administration, and targeted outcomes is recommended for future sessions.

**Keywords:** girls; physical activity; sports; health; education; programming; physical competence; self-esteem; leadership



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# 1. Introduction

Most children and adolescents worldwide do not perform the recommended amount of physical activity (PA) [1,2]. In Canada, recommendations on PA are outlined in the Canadian 24-Hour Movement Guidelines for Children and Youth [3], which suggest that those aged 5 to 17 years should perform at least 60 min of moderate to vigorous physical activity (MVPA) per day. However, most Canadians do not meet these recommendations [1] and likely experience poor physical and psychosocial outcomes [2]. Furthermore, insufficient PA during childhood is associated with many negative long-term outcomes, including increased risk of obesity [4], a greater possibility of cancer [5], elevated cardiometabolic risk factors [6], and lower academic achievement [7].

Moreover, research shows that boys consistently perform higher levels of daily PA compared to girls [8,9]. To elaborate, a large-scale national study conducted in Canada reported that boys are two times as likely as girls to meet the MVPA daily recommendation [10]. More specifically, it has been reported that girls have lower cardio-respiratory fitness, poorer eye—hand coordination, and less perceived competence in physical education [11]. Girls are also found to participate in fewer sports and extracurricular activities compared to boys [11].

Among the girls who participate in an extracurricular sport, about one in three will drop out by late adolescence, whereas the dropout rate for adolescent boys is only one in ten [12]. These PA rates call for concern as research shows that behavioural patterns formed in early childhood have implications throughout the life course [13]. Hence, focusing on creating opportunities for girls to engage in PA is undoubtedly a worthwhile pursuit.

It is also important to highlight some of the positive physical outcomes that are associated with PA participation [14,15], as these benefits are not equally accrued by girls and boys. PA has been shown to foster key life skills needed to succeed in the future [16]. To ensure favorable outcomes, specific prerequisites must be met, such as ensuring safe environments, employing well-trained and supportive coaches, defining clear goals and feedback mechanisms, and fostering peer support and social interaction [17,18]. Research underscores that a positive environment coupled with increased PA has been shown to improve teamwork [19], goal setting [20], time management [21], problem solving [22], and leadership [23] in a variety of individuals, but especially amongst the group of girls that do engage regularly in PA [24]. Increasing leadership in girls can reinforce self-esteem and be a catalyst for a successful adulthood [25]. Young leaders are more likely to take up managerial positions as adults, and leadership skills developed early on can have a positive impact on future wages [26]. Unfortunately, despite the progress observed in the leadership opportunities for women and girls, women remain highly under-represented in positional leadership roles (e.g., political, managerial roles), especially when compared to men [27,28]. A clear need to promote the leadership development of girls exists, which may in turn help narrow the gap in leadership positions during adulthood.

More locally, Windsor, Ontario was named the worst Canadian city for women when it comes to experiencing gender equality, good health, and well-being, according to an extensive national study carried out by the Centre for Policy Alternatives [29]. It was particularly noted that leadership roles were rarely taken up by women compared to men, and overall opportunities for developing leadership skills for women were lacking in Windsor [29]. Consequently, the GOALS programs, offered to young girls aged 5–13 throughout Windsor, seemed like a viable opportunity for them to develop leadership skills through sport and physical activity. It is also important to emphasize that Windsor women are among the least likely of all the Canadian cities surveyed to rate their health as good [29]. This highlights the clear need for a local program focusing not just on enhancing leadership and confidence but also on improving health behaviour for the benefit of many girls and women [16].

In forging forward to address the aforementioned issues, the Faculties of Human Kinetics and Education (University of Windsor) partnered with the local non-profit organization Leadership Advancement for Women and Sport (LAWS). LAWS is committed to enhancing gender equity in sport, recreation, and PA through awareness, education, and support in the creation of equitable opportunities for girls and women. Since the mid 1970s, LAWS has been running an after-school PA program called Girls Organizing and Learning Sport (GOALS). This program is dedicated to coaching girls 5–13 years of age (inclusive of transgender girls) to learn fundamental athletic skills through structured games that enhance their physical, social, emotional, and leadership skills. The partnership between the University of Windsor and LAWS enabled a productive restructuring and upscaling of the previously run GOALS program. Thus, along with improving the physical and social outcomes for young girls, another aim was to redesign GOALS so that it would evolve into a systemic, consistent, structured, and sustainable program. These aims seemed to be accomplished by developing an updated manual, providing structured training for the women leaders delivering the program, and having clear objectives and outcomes.

Overall, the purpose of this study was to evaluate any changes among participants after participating in the newly structured GOALS program. More specifically, researchers assessed changes in health behaviours, perceived physical competence, self-esteem, and

leadership among the participants before and after participating in the GOALS program. The findings will potentially provide evidence of accrued benefits experienced by the girls participating in the updated GOALS program. In addition, any insights obtained from the data analyses have the potential to help improve the effectiveness of the delivery of future GOALS programs.

#### 2. Materials and Methods

## 2.1. Participants and Recruitment

Participants were children and adolescents who identified as being a girl (inclusive of transgender girls) registered in the GOALS program. The GOALS program was promoted to girls aged 5–13 years. A total of nine locations (i.e., public elementary schools) held two-hour weekly sessions over four weeks, for a total of eight hours. The GOALS program was offered twice, once in the fall of 2022 (i.e., 7 October, 21 October, 28 October, 11 November) and once in the winter of 2023 (i.e., 27 January, 3 February, 10 February, and 3 March).

The LAWS organization completed participant recruitment through diverse methods, including social media postings (e.g., Facebook, Instagram), LAWS website advertisements, and word-of-mouth referrals from past participants, program leaders, and locals. Parental consent was obtained for their daughters' involvement in the GOALS program, with acknowledgment that the data collected could be utilized for research purposes. The study also received approval for secondary data analyses from the University of Windsor's research ethics committee before the program commenced.

## 2.2. Overall Study Design

## 2.2.1. Girls Organizing and Learning Sport (GOALS) Program

For several years, the GOALS program has struggled to expand its reach and impact across more than one or two sites each year due to several barriers. Two of these major barriers were finding appropriate leaders (e.g., have knowledge of the sport/activity, are good role models) and securing adequate, cost-effective spaces to successfully deliver the program. The new partnership between the University of Windsor and LAWS provided the human resources necessary (female program leaders) and helped secure several school gymnasiums. The updated GOALS program was designed in a way that enabled female GOALS leaders to motivate participants to productively engage in a range of planned and executed physical activities. Other key objectives included building relationships with other participants, maintaining a positive mindset through self-talk, facilitating life skills development, and developing leadership skills and confidence in one's ability to achieve goals. The intention of the GOALS program is such that it does not matter what activity/sport is offered, the program could be tailored to the leaders' skills, interests, and comfort level. However, each GOALS session followed the same structure.

For example, each session was divided into three distinct parts (beginning, middle, and conclusion). The middle (i.e., main activity) was directed at the activity/sports instruction and participation (e.g., physical competence through soccer, volleyball, yoga, or Zumba), while the beginning and conclusion activities were geared towards specific outcomes. To exemplify, the first 15 min included specific team building or 'sense of belonging' physical activities that enabled the girls to feel comfortable in the environment. As noted in *Canadian Women and Sport*, while boys are generally able to spontaneously jump into a more competitive sport context, girls tend to become more assertive and competitive if they are able to first acquire a sense of belonging and community. The concluding portion of GOALS incorporated explicit confidence building aimed at highlighting one or more of the outcome goals (e.g., self-esteem, leadership).

## 2.2.2. GOALS Program Implementation

A full-year service-learning course, entitled *Girls Organizing and Learning Sport*, was offered to 2nd-year Faculty of Education students (teacher candidates) who were female at the University of Windsor (2022/2023 academic year). There were 33 students enrolled

in the class, 32 identifying as women and one identifying as a man. The first half of the class provided instruction to students on how to deliver a successful GOALS program. The teacher candidates were then placed into groups of three or four students and chose a movement skill (e.g., yoga, dance, volleyball, strength training). After developing a program that followed the course's teachings and focused on interventions based on the weekly course resources, the groups of teacher candidates delivered their program to one of the nine location sites (i.e., local elementary schools) secured by LAWS. Local girls were able to partake in any program location of their choosing on Friday evenings (6–8 pm), for four weeks, at no cost.

## 2.2.3. GOALS Program Evaluation

The GOALS participants filled out a 10 min pre- and post-program survey, which was used to examine changes in health behaviours, perceived physical competence, self-esteem, and leadership in the girls before and after participating in the GOALS program. Both surveys (i.e., pre- and post-program) were paper-based and administered by the program leaders (i.e., teacher candidates). The surveys were completed by the participants independently. However, if a participant was unable to complete the survey due to a language barrier or a lower reading comprehension level, the program leaders assisted with the explanation of a question or read the survey out loud so that it could be properly completed. The participants had the right to refuse to answer any of the questions and to stop the completion of the survey at any time.

Part A: Pre-Program Survey. A 36-question pre-program, paper-based survey was given out to each of the participants by the program leaders at the start of the first session. The survey included questions regarding basic demographics, general PA, health behaviours, perceived physical competence, self-esteem, and leadership. An estimated family-level social economic status was calculated using the forward sortation code (first three digits of their school's postal code) and the median family income level was calculate according to the 2021 Canadian Census.

Part B: Post-Program Survey. After the girls participated in the 4-week GOALS program, they were asked to complete a post-program survey. The survey was administered in an identical manner to the pre-program survey with the addition of four questions specific to their enjoyment of the program and future PA/sport plans.

## 2.3. Materials

The primary outcome measures were general PA, health behaviours, perceived physical competence, self-esteem, and leadership in young girls.

#### 2.3.1. General Physical Activity

Previous evaluations of the GOALS program (e.g., 2013/2014) asked participants three questions related to their PA pre-and post-program. The following questions were also used in the current program evaluation; "Do you currently participate in any school sports", "Do you currently participate in any regular PA that is not considered a sport, if not why?" Each item was scored based on whether participants selected "yes" or "no" for each question. Participants that selected "no" for whether they participate in any regular PA, were able to choose from six reasons why they do not; cost, transportation, time, availability, I do not like PA, and multiple/other. These questions were used when looking at changes in participants' general PA pre-and post-program.

### 2.3.2. Perceived Physical Competence and Self-Esteem

The Children's Perceived Competence Scale (CPCS) is a questionnaire designed to measure children's self-perceived competence across three domains, cognitive, social, and physical, with a fourth domain of general self-esteem, based on Harter's Perceived Competence Scale for Children [30]. The CPCS is a valid and reliable measure of perceived

competence for children between the ages of 6 and 15 years. This scale consists of 10 items in each of the four domains (i.e., cognitive, social, physical, and self-esteem). Each item is scored on a four-point scale: true (4), sort of true (3), sort of false (2), and false (1). For this study, the physical and self-esteem domains were used. An example statement from the physical domain is "Are you interested in trying new sports?" and as part of the self-esteem domain, "Do you think you will become a great person?" is asked. Each domain ranged from 10 to 40, with higher scores indicating greater physical competence and self-esteem. Past research indicates good reliability, with Cronbach's alpha scores ranging from 0.75–0.87 [31]. In the current study, Cronbach's alpha coefficient was 0.82 for physical competence and 0.77 for self-esteem.

## 2.3.3. Leadership and Heath Behaviours

The Raising Healthy Eating and Active Living Kids in Alberta (REAL Kids Alberta) study was a large population-based survey conducted in 2008, 2010, and 2012. The survey included nine statements that provided a framework for measuring leadership skills in children [32]. For this study, all nine leadership-based statements were used. The REAL questionnaire statements were developed based on the seven habits of the Leader in Me process [33,34]. The Leader in Me is a process of implementing an evidence-based, comprehensive model based on Steven R. Covey's The Seven Habits of Highly Effective People, which promotes the development of personal leadership and responsibility in children and adolescents [34]. The first six statements were used when assessing pre- and post-program changes in overall leadership scores. An example of one of the statements is "You do the right thing without being asked". The last three statements were used when looking at changes in health behaviours. These statements included asking participants if they take care of their health by eating healthily, exercising, and sleeping. The participants were asked to indicate the frequency of performing each behaviour on an ordinal scale of 'never or rarely', 'sometimes', 'regularly', 'most of the time', and 'always or almost always', with an additional 'unsure' response. Given the scarcity of reliable instruments for assessing leadership skills [35], this model is thought to be effective and reliable for evaluating leadership traits in this population [32].

#### 2.4. Data Analysis

Descriptive, as well as reliability analyses, were performed on all variables included in this study. All objectives were analyzed using paired sample *t*-tests, Chi-square testing, and one-way analysis of variance (ANOVA) tests to look at changes between pre-program and post-program. Qualitatively, all words used to describe the participants' favourite part of the GOALS program were recorded and put into a cloud-based HTML5 authoring tool powered by Gomo.

## 3. Results

Out of the 466 participants who signed up for the GOALS program, 102 participants completed both pre- and post-program surveys and passed all validity checks with sufficient data. Participant demographics can be found in Table 1. Most participants identified as being White (n = 65, 63.7%), had an estimated mean family income of 40,000 CAD to 44,999 CAD (n = 44, 43.1%), were in grade 5 (n = 27, 26.5%), and did not attend the school that the program was being held at (n = 61, 59.8%). The average age of participants was  $9.6 \pm 2.0$  years, ranging from 5 to 13 years.

Table 1. Participant Demographics.

Characteristics	Frequency (n)	Percentage (%)	
Race/Ethnicity	<b>(F</b>	(2.7	
White (i.e., Canadian, English, French, Italian, Polish)	65	63.7	
Aboriginal (i.e., First Nations, Metis, Inuit)	1	1	
Black (i.e., African-Canadian, African-American, African, Nigerian)	4	3.9	
Chinese, Korean, Japanese	3	2.9	
Arabic (i.e., Lebanese, Jordan, Palestinian, Egyptian, Iraqi, Syrian)	3	2.9	
South Asian (i.e., Irani, Indian, Pakistani, Sri Lankan, Nepali)	6	5.9	
I don't know	13	12.7	
Multiracial (i.e., Black and South Asian)	3	2.9	
Estimated Mean Family Income *			
Less than 34,999 CAD	4	3.9	
35,000–39,999 CAD	23	22.5	
40,000–44,999 CAD	44	43.1	
45,000–49,999 CAD	19	18.6	
More than 50,000 CAD	12	11.8	
Went to the School that the Program was held at			
Yes	41	40.2	
No	61	59.8	
Age (Years)	9.6 (1.9) **	5-13 ***	
5	2	2.0	
6	5	4.9	
7	9	8.8	
8	9	8.8	
9	23	22.5	
10	23	22.5	
11	10	9.8	
12	16	15.7	
13	5	4.9	
Grade Level	4.7 (1.9) **	1-8 ***	
1	7	6.9	
2	6	5.9	
3	11	10.8	
4	22	21.6	
5	27	26.5	
6	7	6.9	
7	16	15.7	
8	6	5.9	

Note. \* Derived from school-level forward sortation code and Statistics Canada census of mean household income; \*\* Mean and standard deviation; \*\*\* Range.

General PA and health behaviours are described in Table 2. Post-program, 17 more participants were involved in school sports ( $\chi^2(1, n=101)=19.084, p<0.001$ ), 19 were more involved in community sport ( $\chi^2(1, n=98)=5.654, p=0.017$ ), and 16 were more involved in regular PA ( $\chi^2(1, n=101)=15.070, p<0.001$ ). For those who reported that they do not currently participate in PA at post-program, they selected availability (n=15, 14.7%), time (n=11, 10.8%), disliking PA (n=6, 5.9%), other/all the above (n=4, 3.9%), cost (n=4, 3.9%), and transportation (n=2, 2.0%) as their most common barriers. Further examination revealed that there were no significant differences between general health behaviours; healthy eating (p>0.05), exercise (p>0.05), and sleep (p>0.05), preand post-program.

In addition, the mean difference scores for each dependent variable (i.e., physical competence, self-esteem, leadership) are presented in Table 3. Overall, the GOALS program did not elicit a significant mean difference between pre- and post-program scores for leadership, t(96) = -1.450, p = 0.15. However, the GOALS program did elicit a significant mean difference between pre- and post-program scores for physical competence, t(100) = -2.341,

p = 0.02, and self-esteem, t(96) = -3.201, p < 0.001. Additional investigation was conducted to analyze the difference mean scores for participants' physical competence, self-esteem, and leadership by the categorical demographic variables (e.g., race/ethnicity, grade, PA, health behaviours). Physical competence difference scores were statistically significant between those that take care of their health by exercising, F(2,71) = 3.879, p = 0.025. Post hoc analysis revealed that the mean difference increased those that reported they use exercise to stay health sometimes/regularly but decreased for those that reported all the time/always. Secondly, leadership difference scores were statistically significant between those that take care of their health by exercising, F(2,75) = 3.263, p = 0.044. Post hoc analysis revealed that the mean difference increased for those who reported sometimes/regularly but decreased for those who reported unsure/never/rarely. Third, self-esteem difference scores were statistically significant between the different program locations, F(8,64) = 3.801, p = 0.001. Post hoc analysis revealed that the self-esteem scores increased for two specific program locations but decreased for two other program locations (i.e., public elementary schools). Fourth, physical competence difference scores were statistically significant between ethnicities, F(2,68) = 6.357, p = 0.003. Post hoc analysis revealed that the mean difference increased for Non-White individuals but decreased for White participants.

Table 2. General Physical Activity and Health Behaviours of Participants (Pre- and Post-Program).

Question and Response	Pre- Program	Post- Program	Significance ( <i>p</i> -Value)
Do You Currently Participate in any School Sports?			
Yes, n (%)	40 (39.2)	45 (44.1)	0 001 8
No, n (%)	62 (60.8)	56 (54.9)	p < 0.001 a
Do You Currently Participate in any Community Based Club Sports?			
Yes, n (%)	59 (57.8)	60 (58.8)	
No, n (%)	42 (41.2)	39 (38.2)	$p = 0.017^{a}$
Do You Currently Participate in any Regular Physical			
Activity that is not Considered a Sport?			
Yes, n (%)	50 (49.0)	51 (50.5)	
No, n (%)	52 (51.0)	50 (49.5)	p < 0.001 a
Why do you Not Participate in any Regular Physical			
Activity that is not Considered a Sport?			
Cost, <i>n</i> (%)	3 (2.9)	4 (3.9)	
Transportation, $n$ (%)	3 (2.9)	2 (2.0)	
Time, <i>n</i> (%)	10 (9.8)	11 (10.8)	
Availability, n (%)	9 (8.8)	15 (14.7)	
I do not like physical activity, n (%)	8 (7.8)	6 (5.9)	
Multiple of the Above/Other	1 (1)	4 (3.9)	
You Take Care of Your Health by Choosing Healthy Snacks.			
Unsure/Never/Rarely, n (%)	9 (8.8)	16 (15.7)	
Sometimes/Regularly, n (%)	49 (48.0)	42 (41.2)	
Most of the Time/Always, <i>n</i> (%)	41 (40.2)	42 (41.2)	p = 0.235 b
You Take Care of Your Health by Exercising.			
Unsure/Never/Rarely, n (%)	11 (10.8)	16 (15.7)	
Sometimes/Regularly, $n$ (%)	48 (47.1)	38 (37.3)	
Most of the Time/Always, n (%)	40 (39.2)	46 (45.1)	p = 0.897 b
You Take Care of Your Health by Getting Enough Sleep.			
Unsure/Never/Rarely, n (%)	15 (14.7)	18 (17.6)	
Sometimes/Regularly, $n$ (%)	30 (29.4)	37 (36.3)	
Most of the Time/Always, n (%)	54 (52.9)	45 (44.1)	p = 0.123 b

Note. Bolded typeface indicates significant association, p < 0.05. <sup>a</sup> Chi-square analyses were used to assess significance. <sup>b</sup> Paired-samples t-test were used to assess significance.

Table 3. Pre-and post-test physical competence, self-esteem, and leadership scores, by demographic.

Characteristic/ Response Options	Physical Competence (*/40) <sup>a</sup>		Self-Esteem (*/40) b		Leadership (*/30) <sup>c</sup>	
	Pre-Program (n = 101)	Post-Program (n = 102) Mean(SD)	Pre-Program (n = 101)	Post-Program (n = 102)	Pre-Program ( <i>n</i> = 101)	Post-Program $(n = 102)$
	Mean (SD)		Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Race/Ethnicity (n = 98)						
White $(n = 65)$	29.8 (6.0)	28.1 (6.0) d	32.1 (4.4)	29.4 (5.2)	19.9 (5.0)	19.1 (5.3)
Non-White $(n = 20)$	29.7 (6.0)	30.7 (6.5) e	30.8 (5.3)	30.3 (6.3)	19.3 (5.3)	20.2 (4.5)
I don't know ( $n = 13$ )	27.3 (7.0)	26.7 (7.3) d,e	30.7 (4.7)	30.0 (5.8)	21.1 (3.1)	19.0 (5.8)
Estimated Mean Family Income $(n = 102)$ *						
Less than \$34,999 $(n = 4)$	31.0 (8.5)	29.3 (10.0)	33.7 (5.7)	30.0 (6.1)	17.3 (9.9)	17.0 (5.6)
\$35,000–\$39,999 (n = 23)	29.9 (5.4)	27.7 (6.4)	31.2 (4.5)	28.7 (4.5)	18.6 (4.2)	17.4 (4.2)
\$40,000–\$44,999 (n = 44)	28.7 (6.4)	29.0 (6.0)	30.5 (5.3)	29.4 (6.1)	19.9 (4.9)	19.3 (4.9)
\$45,000–\$49,999 (n = 19) More than \$50,000 (n = 12)	28.6 (6.5) 32.3 (4.9)	27.9 (7.1) 29.4 (5.5)	32.4 (3.0) 34.7 (2.7)	29.5 (5.4) 33.1 (4.3)	21.6 (4.9)	20.7 (6.1) 20.5 (5.6)
	32.3 (4.9)	29.4 (3.3)	34.7 (2.7)	33.1 (4.3)	21.7 (4.1)	20.3 (3.0)
Grade Level ( $n = 102$ ) 1 ( $n = 7$ )	28.8 (3.0)	30.2 (5.4)	35.8 (3.0)	30.2 (4.2)	22.6 (6.3)	23.6 (1.9)
2(n=6)	27.8 (7.3)	22.2 (5.8)	32.6 (4.6)	29.8 (2.6)	18.0 (6.4)	14.2 (9.1)
3 (n = 0)	28.4 (6.2)	27.8 (6.9)	32.0 (4.1)	32.2 (5.3)	20.6 (5.1)	18.2 (4.5)
4 (n = 22)	29.5 (6.5)	27.6 (6.6)	31.9 (3.5)	29.2 (4.9)	19.3 (4.8)	18.3 (4.1)
5(n=27)	29.9 (6.2)	29.2 (6.1)	32.7 (4.7)	30.4 (6.0)	21.2 (4.4)	20.7 (5.1)
6(n = 7)	29.7 (7.8)	29.4 (8.0)	28.1 (7.6)	27.9 (8.3)	19.6 (5.1)	19.3 (5.7)
7 (n = 16)	30.3 (6.1)	30.1 (5.0)	29.8 (4.7)	28.9 (5.7)	18.9 (2.5)	18.6 (3.8)
8 (n = 6)	29.8 (5.0)	29.2 (6.1)	31.5 (2.3)	29.2 (4.4)	20.2 (8.3)	20.3 (7.2)
Program Location ( $n = 102$ )						
Anderdon ( $n = 10$ ; 15% of total)	30.1 (7.4)	28.1 (9.1)	32.3 (2.6)	30.7 (5.8)	23.2 (4.1)	19.8 (6.6)
David Maxwell ( $n = 16$ ; 33% of total)	31.1 (5.4)	29.1 (5.5)	32.1 (4.8)	28.8 (5.1) e	19.1 (4.2)	17.6 (4.6)
Ford City $(n = 13; 22\% \text{ of total})$	29.6 (5.5)	29.0 (5.4)	28.8 (4.0)	39.2 (5.5) <sup>d</sup>	20.5 (3.3)	19.5 (4.4)
Forest Glade ( $n = 14$ ; 25% of total)	26.9 (5.0)	25.5 (5.6)	31.5 (4.2)	38.5 (4.0) <sup>d</sup>	20.0 (3.9)	20.9 (4.9)
Glenwood ( $n = 15$ ; 36% of total)	29.6 (6.9)	28.0 (5.5)	33.0 (6.2)	32.8 (6.8) <sup>d,e</sup>	21.3 (3.6)	19.8 (3.5)
John Campbell ( $n = 7$ ; 18% of total) Kingsville ( $n = 8$ ; 20% of total)	31.4 (7.1)	30.6 (5.6)	30.8 (4.7) 28.9 (5.9)	31.0 (5.2) <sup>d,e</sup> 24.9 (5.9) <sup>d,e</sup>	19.6 (5.8)	19.6 (5.3)
Queen Victoria ( $n = 10$ ; 21% of total)	26.9 (7.7) 31.6 (4.8)	29.0 (6.8) 30.0 (7.2)	33.3 (3.2)	29.8 (4.8) e	16.3 (5.2) 19.0 (7.8)	14.7 (3.7) 18.4 (7.3)
Roseland ( $n = 9$ ; 17% of total)	28.7 (6.2)	29.4 (7.0)	34.1 (3.7)	32.1 (4.2) <sup>d,e</sup>	20.2 (6.1)	21.8 (4.5)
Do you go to the School that the Program was				, , , , , , , , , , , , , , , , , , , ,		
Yes $(n = 41)$	29.6 (6.1)	28.7 (6.1)	30.2 (5.3)	28.4 (5.8)	18.7 (5.1)	17.1 (4.7)
No $(n = 11)$	29.5 (6.1)	28.4 (6.4)	32.7 (3.8)	30.7 (5.1)	21.0 (4.5)	20.6 (4.9)
Participate in School Sports (Pre-Program) (n =	: 102)					
Yes $(n = 40)$	31.2 (5.0)	30.5 (4.9)	31.3 (5.1)	30.1 (5.9)	20.9 (5.0)	20.9 (5.0)
No $(n = 62)$	28.3 (6.5)	27.1 (6.8)	31.9 (4.3)	29.6 (5.2)	19.4 (4.7)	18.0 (4.9)
Do you Participate in Club-Based Sports? (Pre	-Program) (n = 101)					
Yes $(n = 59)$	29.4 (6.3)	28.7 (6.6)	31.8 (4.9)	29.5 (5.9)	20.0 (5.0)	19.7 (5.2)
No $(n = 42)$	29.7 (5.8)	28.4 (5.8)	31.4 (4.1)	30.2 (4.8)	19.9 (4.5)	18.3 (5.0)
Do you Participate in Physical Activity (Not C	onsidered a Sport)?	(Pre-Program) $(n = 1)$	02)			
Yes $(n = 50)$	29.1 (5.4)	28.7 (5.9)	31.2 (4.9)	29.4 (5.3)	20.3 (4.8)	19.8 (4.9)
No $(n = 52)$	29.9 (6.8)	28.4 (6.8)	32.2 (4.4)	30.1 (5.7)	19.8 (4.9)	18.5 (5.3)
Healthy Behaviours: Healthy Eating (Pre-Prog	ram) (n = 99)					
Unsure/Never/Rarely $(n = 9)$	26.9 (7.4)	28.0 (7.3)	29.7 (6.0)	29.0 (4.8)	15.1 (3.5)	17.0 (5.9)
Sometimes/Regularly $(n = 49)$	28.9 (6.2)	28.3 (6.2)	31.6 (4.5)	30.0 (5.6)	19.9 (4.2)	19.2 (4.3)
Most of the Time/Always $(n = 41)$	30.7 (5.6)	39.0 (6.3)	32.2 (4.5)	29.6 (5.5)	21.1 (5.3)	19.6 (6.0)
Healthy Behaviours: Exercise (Pre-Program) (#						
Unsure/Never/Rarely $(n = 11)$	25.7 (6.7)	26.1 (5.9) d,e	31.6 (3.9)	30.0 (4.3)	18.7 (5.4)	15.9 (5.4) <sup>d</sup>
Sometimes/Regularly $(n = 48)$	27.9 (5.7)	28.0 (6.1) <sup>d</sup>	30.6 (4.7)	28.5 (5.4)	19.6 (4.0)	19.7 (4.2) e
Most of the Time/Always ( $n = 40$ )	32.7 (4.8)	30.0 (6.4) <sup>e</sup>	33.1 (4.5)	31.3 (5.6)	21.5 (5.6)	19.6 (5.8) <sup>d,e</sup>
Healthy Behaviours: Sleep (Pre-Program) $(n = \frac{1}{2})^n$		0 ( F ( ( 0 )	20.2 (5.5)	20 5 (( 1)	10.2 (2.1)	10.0 (4.0)
Unsure/Never/Rarely $(n = 15)$	27.9 (7.2)	26.5 (6.9)	30.2 (5.7)	28.5 (6.4)	19.2 (3.4)	19.0 (4.6)
Sometimes/Regularly ( $n = 30$ ) Most of the Time/Always ( $n = 54$ )	28.8 (6.5) 30.4 (5.4)	28.2 (6.1)	30.0 (4.5)	27.4 (5.2) 31.4 (4.8)	18.1 (4.3)	18.3 (5.5) 19.8 (5.1)
		29.3 (6.1)	33.0 (4.0)		21.4 (5.2)	
Total Overall Scores	28.9 (6.6)	28.8 (6.2)	31.6 (4.7)	30.0 (5.5)	20.1 (4.9)	19.3 (5.2)

<sup>&</sup>lt;sup>a</sup> Children's Perceived Competence Scale—Physical Competence Section (10–40; higher values indicate more self-perceived physical competence). <sup>b</sup> Children's Perceived Competence Scale—Self-Esteem Section (10–40; higher values indicate more self-perceived self-esteem). <sup>c</sup> The Raising Healthy Eating and Active Living Kids in Alberta Survey (0–30; higher values indicate more self-perceived leadership). <sup>d,e</sup> Differing subscript letters indicate significant differences, p < 0.05. Note. Bolded typeface indicates significant association, p < 0.05. \* Derived from school-level forward sortation code and Statistics Canada census of mean household income.

Lastly, Figure 1 displays what the participants noted as their favourite parts of the GOALS program. The most common response was making/playing with friends (27 responses). Other common responses included playing (twenty-one responses), the games (twenty responses), everything (fourteen responses), dancing (thirteen responses), fun

times (nine responses), and volleyball (nine responses). This qualitative insight plays a significant role in highlighting the program's preferred aspects which will help to guide future sessions' design, administration, and targeted outcomes for research purposes.



Figure 1. What participants loved about the GOALS program.

#### 4. Discussion

This evaluation of the GOALS program investigated whether a leadership-based PA program could elicit change in girls. Previous research indicates that leadership-based PA programs have been successful in improving life skills and health behaviours among participants [36,37]. Although no significant changes were observed across health behaviours before and after the GOALS program, there were more participants involved in school sports, community sports, and PA (as opposed to dropping out) after the GOALS program. There could be several reasons why participation in school/community sports and PA increased, for example, increased interest, improved fitness/skills, increased awareness, and social support [17,38,39]. For the participants who reported that they do not partake in regular PA, they attributed time and availability as the top reasons for why they do not participate in PA. This is in line with other research that states that a lack of time is one of the biggest barriers to PA for girls [40]. This finding is concerning considering that many health behaviours track into adulthood, and in this case, adults also report lack of time as one of the most common barriers to PA [41].

More specifically, this study investigated whether girls' self-perceived physical competence, self-esteem, and leadership skills changed from pre- to post-program. Contrary to the current study's results, PA programs have been shown to improve the perception of physical or sport competence [42], increase an individual's confidence in their ability to engage in exercise (i.e., self-efficacy) [43], and build stronger leadership skills [44]. However, no significant changes in participants' overall leadership scores and a decline in total perceived physical competence and self-esteem scores in the current study were observed. This discrepancy may have resulted from several different factors. One reason could be attributed to the program's adherence rates. Previous studies have shown that free afterschool PA programs typically acquire low or irregular attendance rates [45]. When looking at the current study, attendance rates (i.e., number of sessions a participant attended vs. number of sessions they missed) were low. Research has shown that low program attendance reduces the benefits of participating in these types of programs [45]. In addition,

any benefits that were gained from participating in programs may be lost without regular attendance [46], which may explain the lack of statistical significance in the current results.

Moreover, two-hour sessions across four weeks (i.e., total intervention period of 8 h) may not have been long enough to make significant changes among participants. Many similar studies and program evaluations with significant outcomes had program sessions occurring more than once a week (i.e., 3–5 sessions per week) [24,45] and/or over a longer period (i.e., 8-weeks to entire school years) [43,47]. The current findings support the results of other studies that implemented a PA program over two to six weeks, where no significant results were identified [48,49]. Therefore, future research should consider using more appropriate session intervals and an overall longer intervention to obtain significant results. They may also want to consider a small enrolment fee to help create accountability for attendance [45,50].

Under further examination, four significant differences were discovered when looking at different demographic groups. First, physical competence scores were different based on whether or not the participant reported that they take care of their health by exercising. While positive results were observed for those sometimes/regularly exercising, those who exercise most of the time/always saw a decrease in physical competence post-program. It is possible that the participants that selected most of the time/always at pre-program may have over-estimated their physical abilities, and then, after undergoing the program, realized they were not as physically competent as previously thought. In contrast, those selecting that they sometimes/regularly exercise may have under-estimated their abilities at pre-program or felt more confident in their abilities after undergoing the intervention. Although, this is speculation and further research in this area is needed to truly understand why these groups differed.

Similarly, positive results were observed for participants who reported that they take care of their health by exercising sometimes/regularly for leadership scores whereas those who reported unsure/never or rarely showed a decrease in leadership at post-program. In this case, it is possible that participants who do not exercise or exercise rarely may have been further discouraged after participating in a PA-based program. Additionally, one study reported that if participants view an intervention as being of no relevance to them, then their non-engagement may cause failure or low adherence [51].

Another outcome is that program location (i.e., which school the program was held at) significantly increased or decreased participant's self-esteem difference scores. This may be due to the activities in the program and engagement, program leaders, group dynamics, among other reasons [52–54]. Variability between program location is typically observed across similar research as less is known about the conditions and delivery under which these programs were effective [55]. As such, the program leaders delivering the intervention may have played a role in program adoption and treatment fidelity [53]. Additionally, previous studies have revealed that teamwork and group cohesion is positively related to improvement in self efficacy among participants [56,57]. Therefore, the locations that saw increased self-esteem may have had better implementation fidelity, stronger program leaders, more engagement from participants, and a more cohesive group of participants compared to the locations that saw decreased self-esteem scores.

Lastly, the ethnic background of the participants was significantly associated with physical competence scores, such that Non-White (i.e., Black, Aboriginal, Arabic, Asian) participants increased their physical competence scores at post-program compared to White participants. This outcome is in line with other research that has shown that racial minorities typically gain more benefits from different types of programming [58,59].

# Limitations

This study is not without limitations. First, the current study did not achieve the desired number of matched surveys. Consistent attendance at the GOALS program was limited and, therefore, many participants missed either the first or last session of the program (i.e., a pre- or post-questionnaire), resulting in a smaller sample size. Irregular

and low attendance has been commonly reported in free after school programming [45] but being cost-effective was thought to outweigh the need for an enrolment fee.

In addition, the original plan was to have the GOALS program held over a total of five weeks; however, due to an elementary school strike (4 November 2022) and severe weather (10 March 2023) that caused facility closures, it was cut short to only four weeks both times. Participants may have also missed one or two sessions causing the program length to be cut even shorter. Optimal program length is not well documented, but a consistent and extended program duration is recommended for future research.

Furthermore, this study depended exclusively on participant's self-reports, which is prone to reporting biases associated with social desirability, entry error, and memory recall [60]. The self-reported nature of the data collection may have influenced the current results due to over- and under-estimating their physical competence, self-esteem, and/or leadership skills [61]. Social desirability and social approval biases have also been shown to vary by sex [62]. For instance, females have been shown to have higher levels of social desirability compared to males [63]. This tendency might have led the current sample to respond to survey questions in a biased manner, prioritizing the portrayal of a favourable image and evading criticism rather than providing truthful responses [64,65]. Coupled with participant self-reports, the pre- and post-program surveys were administered by program leaders and not research personnel. Therefore, there is no way to know that the surveys were implemented in the same matter with the same amount of enthusiasm. Future research may want to include more objective measures; however, self-reported data collection methods administered by the program leaders are cost effective and easy to administer and, therefore, were utilized for the current study [66].

Lastly, the GOALS program's implementation fidelity was not measured, therefore, the degree to which the intervention was delivered as intended and the successful translation of the evidence-based interventions into practice cannot be accounted for [51,67]. Previous research has suggested that the fidelity with which an intervention is implemented affects how well it succeeds [67,68]. Although few researchers have reported their procedures for monitoring implementation fidelity, and even fewer have evaluated the validity of those strategies [52,69], for these reasons, this method was not utilized in the current study.

## 5. Conclusions

In conclusion, a program evaluation was conducted to determine whether a leadershipbased PA program elicited changes in girl's physical competence, self-esteem, and leadership. Overall, the GOALS program had no effect on participants' total leadership scores pre- and post-program but did elicit a significant negative change in physical competence and self-esteem total scores. In addition, significant results were observed for physical competence and leadership difference scores among those who reported taking care of their health by exercising, as well as self-esteem difference scores for different program locations. Lastly, physical competence scores differed significant by ethnicity. It is important for researchers to understand the need for all-girl PA programs that focus on improving life skills. It is also crucial that the design and implementation of these programs are strategically executed in ways that will yield significant positive effects for participants. Although minimal differences were observed, many positive findings and future considerations for program design, administration, and targeted outcomes are recommended for future program implementation. The researchers aim to emphasize the imperative nature of measuring implementation fidelity across distinct sites, objectives, and outcomes. While this aspect was not incorporated in the present study, its absence signifies a noteworthy gap requiring comprehensive investigation. There is a strong advocacy for exploring this area to enhance the effectiveness of similar programs moving forward.

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**Institutional Review Board Statement:** The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board (or Ethics Committee) of University of Windsor. While all procedures followed the Tri-Council Policy Statement 2: Ethical Conduct for Research Involving Humans, this program evaluation was deemed exempt due to the nature of the research. As such, a secondary use of data application was made to the University of Windsor Research Ethics Board to use the data for research purposes (#22-112).

**Informed Consent Statement:** Parents provided consent for their daughters to participate in the GOALS program, knowing that any data collected may be used for research purposes.

**Data Availability Statement:** The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy and ethical issues.

Conflicts of Interest: The authors declare no conflicts of interest.

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