

USING A TIME-SERIES ANALYSIS TO EVALUATE A FEMALE YOUTH-DRIVEN PHYSICAL ACTIVITY-BASED LIFE SKILLS PROGRAM BASED ON THE TEACHING PERSONAL AND SOCIAL RESPONSIBILITY MODEL

UTILIZANDO UN ANÁLISIS DE SERIES DE TIEMPO PARA EVALUAR UN PROGRAMA DE ACTIVIDAD FÍSICA DE HABILIDADES PARA LA VIDA, BASADO EN EL MODELO DE ENSEÑANZA DE LA RESPONSABILIDAD PERSONAL Y SOCIAL, DIRIGIDO A MUJERES JÓVENES

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ABSTRACT

The *Girls Just Wanna Have Fun* program is a physical activity-based life skills program that was developed in response to the highlighted need to increase levels of physical activity in female youth and is based on the TPSR model (Hellison, 1995). The purpose of this research was to examine how well the implementation of the program adhered to the five levels of the TPSR model using a time series analysis. Participants and leaders completed evaluations of the five TPSR levels at the end of each session. The youth also completed the Personal and Social Responsibility Questionnaire at the beginning and end of the program. Results indicated that participants' self-ratings of the five TPSR levels varied based on type of life skill and physical activity of each program session, but overall showed a gradual upward trend throughout the program. Dependent t-tests revealed a significant difference for leadership from the start to the end of the program. This research aids in understanding the process in which youth development programs, specifically those utilizing the TPSR model, can be effectively implemented. Practical recommendations for future programming are discussed.

RESUMEN

Girls Just Wanna Have Fun es un programa de habilidades para la vida mediante la actividad física basado en el modelo TPSR (Hellison, 1995) que se desarrolló para responder a la necesidad de aumentar los niveles de actividad física de las mujeres jóvenes. El propósito de esta investigación fue

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examinar, utilizando un análisis de series de tiempo, la implementación del programa en relación con los cinco niveles del modelo TPSR. Los participantes y los líderes completaron las evaluaciones de los cinco niveles TPSR al final de cada sesión. Las jóvenes realizaron también el cuestionario de Responsabilidad Personal y Social al inicio y al final del programa. Los resultados indican que las autoevaluaciones de los participantes en los cinco niveles TPSR variaron en función del tipo de habilidades para la vida y de la actividad física de cada sesión; aunque, en general, mostraron una tendencia gradual al alza durante todo el programa. Pruebas *t* dependientes revelaron diferencias significativas entre el principio y el final del programa en lo concerniente al liderazgo. Este estudio ayuda a comprender mejor los procesos de aplicación efectiva de los programas de desarrollo de la juventud, especialmente los que utilizan el modelo TPSR. Finalmente, se discuten también recomendaciones prácticas para la realización de programaciones futuras.

KEYWORDS. Program evaluation; TPSR; time series analysis; female youth; community programming.

PALABRAS CLAVE. Evaluación de programas; TPSR; análisis de series de tiempo; mujeres jóvenes; programación comunitaria.

1. INTRODUCTION

The positive youth development (PYD) framework has emerged over the past two decades as a proactive approach for youth development. As defined by Damon (2004), this approach

... envisions young people as resources rather than as problems for society. The positive youth development perspective emphasizes the manifest potentialities rather than the supposed incapacities of young people – including young people from the most disadvantaged backgrounds and those with the most troubled histories. (p. 15)

Thus, the approach to PYD programming is to educate and engage youth in productive activities rather than correct negative behaviour that is often associated with adolescence, and particularly at-risk youth, such as drinking, drug use, pregnancy, and school dropout (Botvin, 2004; Damon, 2004). This framework has been integrated into many different domains including art, drama, and sport and physical activity programming (Eccles, Barber, Stone & Hunt, 2003; Weiss, Stuntz, Bhalla, Bolter & Price, 2012).

The Girls Just Wanna Have Fun (GJWHF) program is an example of such an intervention. Specifically, GJWHF is a youth-driven physical activity-based life skills program for at-risk female youth between the ages of 11 and 14 that was implemented at a Boys and Girls Club in Eastern Ontario, Canada. The program incorporated one session per week for an eight month period for a total of 30 sessions. Within each GJWHF session, youth participated in a life skills activity as well as some form of sport or physical activity that reinforced the life skill of the session. Life skills are defined as “abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and

challenges of everyday life" (World Health Organization, 1999, n.p.). The program was youth-driven in that the youth decided on what types of physical activity as well as were provided choices regarding the life skills activities they wanted to participate throughout the program. For a complete description of the GJWHF program see Bean, Forneris and Halsall (2014).

The GJWHF program is based on Hellison's (1995) Teaching Personal and Social Responsibility (TPSR) model which uses sport or physical activity as a vehicle to promote positive developmental outcomes in youth (Hellison et al., 2000). Hellison's model was developed from work with at-risk youth and has been used in a variety of youth programs and physical education (Escartí, Gutiérrez, Pascual & Llopis, 2010; Sandford, Armour & Warmington, 2006; Walsh, Ozaeta & Wright, 2010; Wright, 2011). The TPSR model uses a youth-centred approach and a strong leader-participant relationship that allows for the gradual empowerment of youth (Hellison, 2011). Although the TPSR model is integrated into a sport or physical activity environment, the environment is simply used as a vehicle for the facilitation of the program values and the primary focus within a TPSR-based program is on developing a sense of responsibility rather than the development of sport or physical activity skills (Hellison, 2011).

The TPSR model consists of five levels of responsibility: (1) Personal Responsibility/Self-Control; (2) Effort; (3) Self-Coaching; (4) Leadership; and (5) Transference (Hellison, 2011). Personal responsibility, also referred to as self-control, refers to the ability to control one's behaviour and conduct; effort refers to the ability to apply oneself to a given task; self-coaching refers to the ability to improve in a chosen area using independent goal setting and planned practice without direct supervision; leadership refers to the ability to direct a group towards an agreed upon goal; and transference refers to the ability to use the skills outlined above in contexts outside of the program (e.g., school, home, etc.) (Hellison & Walsh, 2002; Martinek, Schilling, & Johnson, 2001). Two of these concepts address the participants' responsibility for their own well-being (self-control and effort), while two other responsibilities (self-coaching and leadership) addresses the youths' social responsibility for the well-being of others. The fifth element focuses on transfer of responsibility from the program to other aspects of their lives (Hellison, Martinek, & Cutforth, 1996).

The goal of a TPSR program is to enhance these five levels of responsibility over the course of the program. To help facilitate this process, the TPSR model uses a specific program structure. Each session of a TPSR program uses the following format that is divided into four components: relational time, awareness talk, sport/physical activity, and group discussion (see Table I for how these components were implemented in GJWHF).

(Table I, next page)

Table I. TPSR Model Structure for Each Session

Component	Description
Relational Time	The Rose and Thorn activity (5-10 min), where the youth share one positive and one challenging experience in the past week; used to strengthen relationships between youth and leaders as well as among youth themselves.
Awareness Talk	The Awareness talk was used to teach about the five TPSR levels of responsibility as well as other life skills (respect, positive self-talk, goal setting).
Sport/Physical Activity	Youth were provided with choice as to what type of activities they wanted to participate in. These included: basketball, volleyball, swimming, skating, dance, etc. The life skill of the session was integrated into the activity.
Group Discussion	At the end of every session a debrief took place where the leaders and youth discussed progress and challenges of the session.

Hellison and Walsh (2002) reviewed 26 different studies that investigated the impact of TPSR-based programs and found that these programs helped youth improve their self-control, effort, and teamwork. However, other studies regarding the impact of TPSR programming have stated that the results are “cautiously optimistic” (Bailey, 2008 in Armour, Sandford & Duncombe, 2012, p. 3). Therefore, more research needs to be conducted that could help explain why TPSR-based programs may or may not lead to positive outcomes.

In addition, although the TPSR model has been integrated into many environments, the majority of TPSR programs have targeted mixed gendered or all-boys groups (Escartí et al., 2010; Hellison et al., 1996; Walsh et al., 2010) and as a result there has been very little documentation on TPSR programming for all-girls programs. Only two studies have included all female participants (Wright, Stockton & Hays, 2008; Wright, Whitley & Sabolboro, 2011). While these studies were heavily focused on the implementation process, the authors highlighted improvements in respectful behaviour and self-confidence as well as the transference of lessons learned to environments outside of the program.

The purpose of this study was to understand how well the implementation of the GJWHF program adhered to the TPSR model and whether this adherence had any impact on PYD outcomes for female youth. More specifically, this study conducted a time-series analysis to examine the trend in the development of the five TPSR levels. To our knowledge, this is the first study to use a time-series analysis to shed light on understanding the process and perceived impact of a TPSR program. A time series analysis was deemed appropriate as it allows researchers to examine trends across time, (e.g., a year of program implementation) and to examine whether particular program sessions appear to facilitate or impede the development of PYD outcomes.

Moreover, the times series analysis in this study examined youth and leader ratings of the TPSR levels over the course of the program which allowed for an examination of the congruencies and discrepancies between youth and leader ratings.

2. METHODS

Participants and Procedure

This research was conducted in collaboration with a Boys and Girls Club in a city located in Eastern Ontario, Canada. Two categories of participants were recruited for this study: female participants of the GJWHF program and program leaders. Female youth (N=12) between the ages of 11 and 14 ($M=11.75$) participated in the program and were from low income households. Additionally, there were five leaders; (3 university students and 2 part-time staff members of the Boys and Girls Club) who implemented the GJWHF program. The mean age of the leaders was 28.6 ($SD=8.94$; range 21-46).

Youth completed the Personal and Social Responsibility Questionnaire at the beginning and end of the program. In addition, youth were responsible for completing a self-evaluation of the five TPSR levels at the end of each weekly program session. Similarly, the leaders also completed a post-session evaluation that took place at the end of each program session. During this time, the leaders had a debrief discussion wherein they highlighted the successes and challenges of the session, whether the session had been implemented as planned, or if there were any issues that disrupted the program session. It was within this post-session debrief that the leaders, as a group, rated the youth collectively on each of the TPSR levels. Parental consent and assent was obtained for all youth participants and all leaders completed consent forms. All procedures were approved by the affiliated institution's Office of Research and Integrity.

Measures

Personal and Social Responsibility Questionnaire

Escartí and colleagues (2012) recommended that when conducting evaluations of TPSR programs researchers should "incorporate some of the recently created scales based on the TPSR model in order to more precisely measure personal and social responsibility" (p. 185). For this study, this recommendation was followed and the Personal and Social Responsibility Questionnaire (PSRQ) by Li, Wright, Rukavina, & Pickering (2008) was included as one of the measures. The PSRQ was modified from Watson, Newton, and Kim's (2003) Contextual Self-Responsibility Questionnaire, which assesses participants' perceptions of personal and social responsibility. The tool is a 14-item questionnaire (7 items for each factor: social responsibility 1-7, personal responsibility 8-14). The construct of social responsibility represents two levels: 'respect for others' and 'caring for others'. The construct of personal responsibility looks at 'effort' and 'self-direction'. This tool used a 6-point Likert scale (1=Very Strongly Disagree; 6= Very Strongly Agree), as Li and colleagues (2008) highlighted that this

scale is often used because it eliminates the possibility of neutral responses. The PSRQ is a valid and reliable tool for measuring perceptions of personal and social responsibility. This measure also showed good internal consistency in this study (Cronbach's alpha ranged from 0.76 to 0.92).

Eight of eleven youth participants completed the PSRQ at both time points (beginning and end of program). This was the case for two reasons: some of the youth joined a few weeks into the program after the initial (time point one) measure had been completed; and, the program did experience some participant drop-out particularly in the last few weeks when the weather improved and youth chose to participate in other outdoor activities. According to the local Boys and Girls Club, it is very common to have a drop-off in the number of youth coming into the club once the weather improves as youth prefer to be outside rather than inside the club.

Participant weekly TPSR self-evaluations

At the end of each session, youth participants were asked to rate themselves on the five levels of the TPSR model: self-control, effort, self-coaching, leadership, and transfer. At the beginning of the program these elements were introduced to the youth and an age-appropriate definition was given to the group. The leaders would use probing questions to assist youth in understanding these terms. For example, for 'effort', leaders would ask youth "how hard did you try today?" These levels were answered using a 4-point Likert scale (1: Needs work; 2: Okay; 3: Good; 4: Great). This self-rating component helped to focus participants and to assist program leaders in understanding how youth were progressing through the five levels. At the beginning of the program, a large poster was used for youth to complete their self-evaluations. After three weeks of using this tool, it was observed that there was a lot of peer influence impacting the ratings, and therefore it was decided from that point forward to provide individual handouts allowing for a more private reflection and less peer-influence in the evaluation process. Therefore, results in this study are only those from the point of individual evaluations. In addition, there were a few sessions in which self-evaluations were not completed. These sessions were those that did not represent a regular program session and instead represented a unique opportunity for youth (e.g., swimming at local pool, outdoor skating, holiday party). In total, the levels were rated by each youth for 18 sessions.

Leader weekly logbook entries

At the end of each program session, the five leaders would debrief on how the session went, including what went well, challenges that occurred, and how youth participated as a whole for that session based on self-control, effort, self-coaching, and leadership. Results of this group discussion were then entered online using Survey Monkey. The leaders used the same 4-point Likert scale as the youth with respect to the TPSR levels (1: Needs Work; 4: Great). However, the leaders only rated youth on four of the five levels. Transfer was not measured by the leaders as this was not something that could be observed in the program sessions as it was based on youths' perceptions and levels of confidence in their ability to transfer the skill into other life domains.

Data Analysis

The quantitative data were analyzed using SPSS 20.0. Descriptive statistics (means and standard deviations) were calculated for all measures (PSRQ, Youth Weekly Self-Evaluation, Leader Logbook Group Evaluation). Dependent *t*-tests were conducted to examine if there were any significant differences on personal and social responsibility measured by the PSRQ from pre to post program as well as changes in the five TPSR levels measured by the weekly evaluations from pre to post program for the youth. Given that there was only one overall leader rating, only descriptive data could be provided. Additionally, a time-series analysis was conducted for each level of the TPSR model (self-control, effort, self-coaching, leadership, transfer). Time-series analyses “provide a continuous, descriptive record of the experimental variables over the entire course of an experiment” (Gottman & McFall, 1972, p. 274). See **Table II** for a complete breakdown of what each session encompassed including the session number, life skill of focus, and the particular sport or physical activity integrated into each session. In addition, the Leader Logbook was analyzed using a content analysis to help understand how implementation variables may have impacted the TPSR levels.

Table II. Outline of GJWHF program by session. Only sessions that had both program components and TPSR ratings completed are included in table

Session	Attendance	Life Skill	Sport/Physical Activity
4	11	Confidence & Courage	Co-operative games
5	10	Respecting Others	Kickboxing
6	10	Respecting Others	Kickboxing
7	12	Responsibility	Lacrosse
8	12	Responsibility	Lacrosse
9	11	Dare to Dream	Volleyball
11	14	Dare to Dream	Dance
15	6	Overcoming Obstacles	Co-operative games
17	14	Seeking Help from Others	Co-operative games
19	13	Self-Talk & Thought Control	Yoga
20	12	Relaxation	Yoga
21	14	Focus	Yoga
22	5	Empowerment	Walk
27	9	Leadership	Co-operative games
28	7	Appreciating differences/Youth planning	Co-operative games
29	8	Youth planning	Co-operative games
30	10	Youth Implementing	Co-operative games

3. RESULTS AND DISCUSSION

In this section, the results from the PSRQ are presented first followed by the results of the time-series analysis. It was decided that integrating excerpts from the Leader Logbook into the interpretation of the time-series results helps provide a more comprehensive understanding of the effectiveness of the TPSR model within the GJWHF program and the associated levels of responsibility. Consequently, it was decided to integrate the discussion into the results section. Throughout this section past research was incorporated to help explain or support the findings. However, as this was the first time that a time series analysis has been used within the PYD literature, there is limited literature to refer to in this discussion. Nevertheless, the lack of literature available provided an opportunity to identify several areas for future research.

Descriptive statistics for the PSRQ indicated that over the course of the program social responsibility increased from pre ($M = 4.60$; $SD = 0.94$) to post ($M = 5.13$; $SD = 0.58$) while personal responsibility slightly decreased from pre ($M = 4.66$; $SD = 1.09$) to post ($M = 4.41$; $SD = 1.12$). Although the scores for social responsibility increased from pre-post the dependent t -test indicated that this difference only approached significance $t(7) = -2.17$, $p = .066$. However, it should be noted that the small sample size led to low power to detect a statistical significance and as a result, the effect size was calculated (Cohen's $d = -0.624$) indicating a medium effect size. The dependent t -test for personal responsibility $t(7) = .657$, $p = .532$ was not significant.

Concrete justification as to why social responsibility increased while personal responsibility slightly decreased cannot be determined; however, the authors speculate two possible reasons. First, questions related to personal responsibility were related to effort and self-coaching (such as 'I participate in all of the activities' or 'I try hard even if I do not like the activity'). From both the youth's TPSR ratings and the Leader Logbook, the girls did not always participate or try their best in the program activities. Therefore, the slight decrease may be an accurate reflection within the program and may be linked to the program curriculum as discussed below. Second, in a process evaluation of GJWHF, the results showed that the youth perceived the program as a supportive environment that facilitated the development of relationships with peers and with leaders which may explain the increase in social responsibility (Bean et al., 2014).

Results for the youth's self-evaluations from beginning (first session) to end (last session) of program are displayed in Table III. Descriptive statistics revealed an increased in all five TPSR levels (self-control, effort, self-coaching, leadership, and transfer) from pre-program to post-program. However, the dependent t -tests only revealed a significant difference for leadership. However, again due to the small sample size effects sizes were calculated for all five levels. All five levels showed a moderate to large effect size (Table III). These findings are consistent with previous studies that have found improvements in responsibility behaviours of participants when using the TPSR model (Hellison & Walsh, 2002).

Table III. Youth Ratings from First Session to Last Session of the Program

TPSR Levels	Pre		Post		t	p	Cohen's d
	M	SD	M	SD			
Self-control	3.16	0.41	3.75	0.39	-2.54	0.052	1.33
Effort	3.33	1.03	3.83	0.41	-1.00	0.363	0.60
Self-coaching	2.67	1.21	3.75	0.38	-2.41	0.061	1.27
Leadership	2.33	0.52	4.00	0.16	-7.60	0.001	4.91
Transfer	3.55	0.84	3.75	0.39	-1.04	0.348	1.25

Descriptive statistics of the leaders' evaluations of the youth from beginning to end of the program on the five levels showed that the leaders perceived the youth as improving in self-control (2.0 to 3.0), self-coaching (3.0 to 4.0) and leadership (2.0 to 4.0). The leaders' perceived the youth to put forth consistently strong effort (4.0 to 4.0) over the course of the program. What is noteworthy is that the leader's perceived that the youth improved two full levels from beginning to end of the program on leadership.

Results from the five time-series analyses (one for each level of responsibility) are presented in five different figures (**Figures 1-5**). Within each graph, both the average of the youth rating and the leaders' rating are depicted, except for transfer, where only youth evaluations are documented, as previously mentioned. Throughout this section, we also discuss the findings from the Leader Logbook to help explain some of the trends observed in the results of the time-series.

Youth ratings for self-control were generally higher than that of leader ratings over the course of the program, yet followed the same general trend (see **Figure 1**). Although this discrepancy was present throughout the program, the difference between youth and leader ratings at the end of the program was smaller compared to the beginning of the program. From the analysis of the logbook, it was observed that there were lower ratings of self-control in sessions when the leaders discussed having to intervene more to keep the youth on track and focused. For example, as seen in Figure 1, the leaders rated the youth low on self-control for three weeks in a row when the life skills were Positive Self-Talk, Relaxation, and Focus respectively. To help reinforce these life skills, the chosen physical activity was Yoga. It was noted in the logbook that during these sessions: "during the breathing exercise, some girls had trouble not laughing and staying serious" (February 21, 2012) and "girls losing focus, not paying attention and being disruptive." (February 28, 2012). Also, it was noted in the last Yoga session: "it was challenging trying to get all the girls to focus and listen" (March 6, 2012).

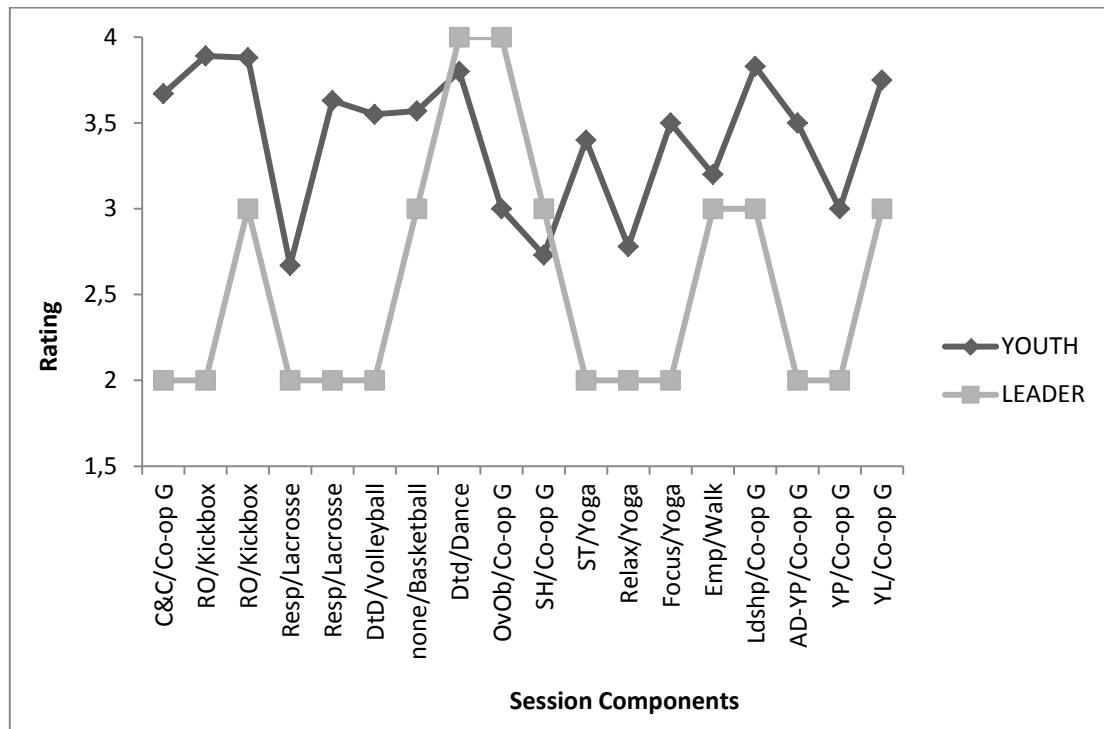


Figure 1. Leaders and Youth Ratings of Self-Control as a Function of Life Skill and Physical Activity by Session

It was also noted that in sessions that included high energy activities such as Kick boxing, Lacrosse and Co-operative Games (e.g. relay races), were also cases in which the leaders rated youth lower on levels of self-control. Therefore, it may be that youth have more difficulty with self-control when engaging in activities that involve very low energy or when engaging in high energy or high excitement activities. Although the goal is for the youth to continually improve in self-control over the course of the program, the finding that levels of self-control oscillated throughout the program is consistent with past research that has found that youth often fluctuate in their ability for self-control throughout a program (Walsh et al., 2010).

Upon reflection after the program ended, another possible reason for the discrepancy between leader and youth ratings could be related to the notion that the leaders may have a broader perception of self-control than what the youth perceived self-control to be. While the leaders believed that self-control meant not only the ability for the youth to control one's temper, but also control other emotions, the youth may have perceived self-control to be primarily controlling one's temper. Self-control falls in line with the overall element of respect within TPSR which was constantly reinforced over the course of the program and has been the focus of many other programs (Walsh et al., 2010). When youth spoke out of turn, or were not respecting the rights of others, the leaders would remind them to 'respect each other'. Therefore, youth may have perceived speaking out of turn to be more closely associated with respect, whereas self-control meant being in control of one's feelings *and* temper. It was noted in the

Leader Logbook that youth who continued to speak out of turn throughout the session were documented by the leaders as having lower levels of self-control than those who remained in control of all of their emotions. Therefore, it is recommended that future programs ensure that both the leaders and participants are on the same page with regards to the definitions of the levels. In addition, it is advised, given that one of the goals of TPSR is to empower youth that the definition results from a joint discussion with the youth to provide them with increased voice and sense of responsibility over the program in general.

Leaders and youth ratings showed the least discrepancy for the second Dare to Dream session that incorporated Dance, and for the Empowerment session that incorporated an outdoor Walk. As the logbook stated, the "girls paid attention, remained focused and gave a good effort throughout the dance segment" (December 6, 2011). Leaders noted that these physical activities were those that the youth were very excited about integrating into the program: "almost everyone participated and the girls seemed to be enthusiastic about it" (December 6, 2013). It was observed that these activities enabled the youth to have more autonomy over their actions and decision making. For example, in the Dance session the instructor integrated a GROOVE method of dance which allowed the youth to create their own independent movements. During the walk, one leader highlighted that youth were encouraged to choose their own route and games to play during the walk "(the) girls had a great time and enjoyed themselves...I believe they like the freedom the walk allowed for (unstructured activity)" (March 20, 2012). Results from a study conducted by Muraven, Gagne, and Rosman (2008) indicated that during activities in which an individual's autonomy was supported, youth performed better in terms of self-control. Further, research has also shown that self-control can be influenced by positive affect through intrinsic motivation (Isen & Reeve, 2005). Therefore, since the youth were participating in something that they enjoyed and that they chose, this may have had a positive enhancement on their levels of self-control.

Overall, both youth and leaders believed the youth improved on their ability to self-control from the beginning to end of the program and this is consistent with past research that has utilized the TPSR model in out of school-based programs (Jung & Wright, 2012; Watson & Clocksin, 2013; Wright, Li, Ding & Pickering, 2010).

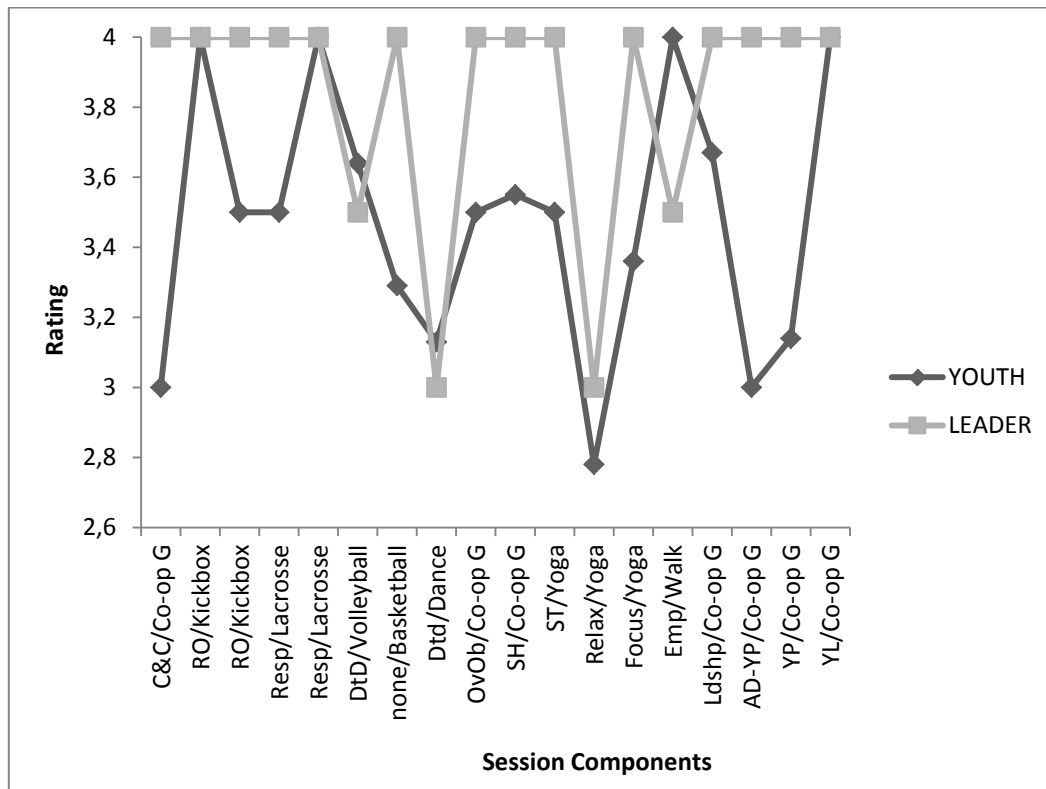


Figure 2. Leaders and Youth Ratings of Effort as a Function of Life Skill and Physical Activity by Session

Similar to self-control, leader and youth ratings for effort followed the same general trend over the course of the program and showed an improvement from beginning to end which supports the overall goal of the TPSR model (see **Figure 2**). However, in the case of effort, the leaders rated the youth consistently higher than the youth themselves. Effort was rated as "great" for all but five sessions by the leaders. In addition, the rating for effort by the leaders never dropped below a level 3 ("good"), indicating that the leaders perceived youth as putting forth a consistently good effort over the course of the program. In contrast, the mean rating for effort by the youth was only classified as "great" on four occasions over the course of the program, while the remaining sessions fell between "okay" and "great". This discrepancy may be due to differences in how youth and leaders conceptualize effort. Although this was not particularly explored in this study it is an important area for future research that incorporates both participant and youth ratings of program components and experiences.

Regarding the fluctuation of effort over the course of the program it appears that for youth in particular, ratings of effort seemed to be heavily dependent on preference for the life skill and physical activity of the session; if the youth did not enjoy one of the elements of a session, they rated themselves lower on effort (e.g., the session on Relaxation that was combined with Yoga discussed above). From the Leader Logbook, it was recorded for one of the Yoga sessions "Some youth were very difficult and

refused to participate" (February 28, 2011). This contributed to some youth rating themselves lower on effort which not only decreased the overall mean of youth self-evaluations, but also impacted other youth during the session. From previous research by Escartí and colleagues (2012), who evaluated a TPSR-based program, participants who put forth good effort participated in planned activities regardless of whether the activity was a favourite or not and persisted in all activities even if they were difficult. This is something in which female youth within GJWHF struggled with and therefore suggests that youth should be encouraged by the leaders to persist through such activities. In terms of recommendations for future programming, it is critical that program developers ensure that the activities implemented are engaging and for leaders to challenge youth by helping them recognize that although a certain activity may not be enjoyable to them it is an activity from which they can learn something about themselves as well as it is important to respect others who are enjoying the activity.

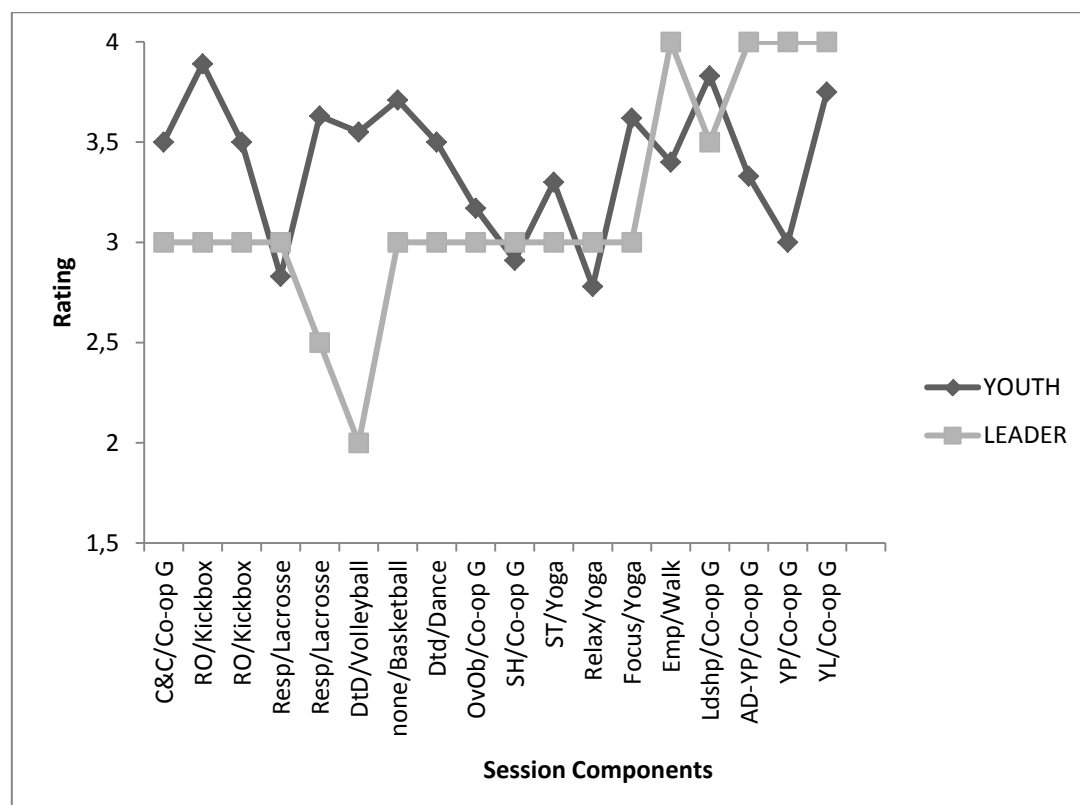


Figure 3. Leaders and Youth Ratings of Self-coaching as a Function of Life Skill and Physical Activity by Session

Self-coaching was scored consistently higher by youth than leaders, yet both youth and leaders gradually increased their ratings from beginning to end of the program (see Figure 3). Self-coaching was rated highest by leaders during the youth planning and implementation sessions near the end of the program where the participants were

prepared a life skills and PA lesson and then taught this lesson to younger Boys and Girls Club members. As noted in the leader logbook “Self-coaching and coaching of others... was great! The leadership and initiative that was taken by a number of individuals was impressive and really great to see” (May 9, 2012). During these sessions, youth were not only setting goals for themselves, but also for the outcomes of their teaching. As a major component of this program is the gradual empowerment of youth participants, these findings support the overall TPSR model in that the levels of self-coaching increased (Hellison, 2011; Wright et al., 2010). On the other hand, Self-coaching was rated poorly by the leaders during the Lacrosse (Responsibility) and Volleyball (Dare to Dream) sessions. It was noted in the leader logbook that for these sessions there were difficulties with transportation to the program (youth arriving late) which negatively impacted the overall flow of the sessions and therefore may have decreased the youths’ ability to reflect on their goals for the session and to work towards those goals. Youth rated themselves lowest on self-coaching in the second Yoga session, where the leaders also observed that youth seemed to be less self-motivated than other sessions.

Findings from this study suggest that an effective mechanism for enhancing self-coaching is for leaders to integrate activities that require youth to take ownership and/or plan activities within the program session.

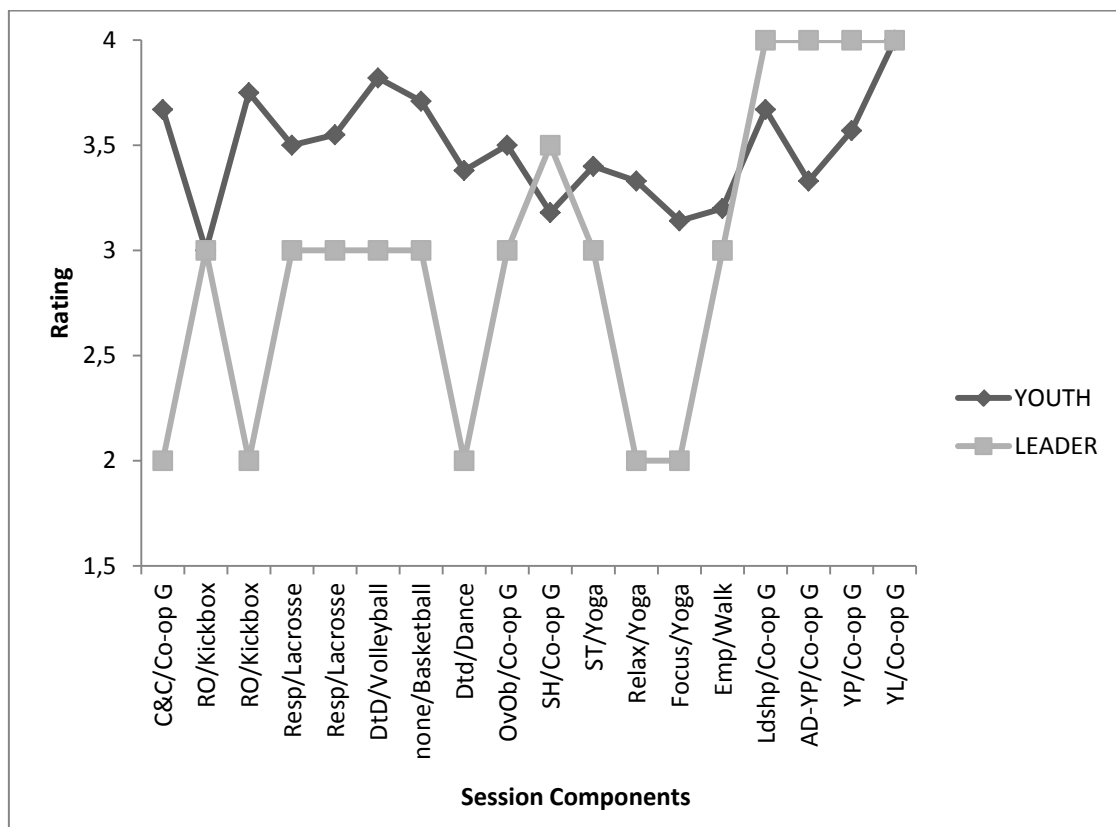


Figure 4. Leaders and Youth Ratings of Leadership as a Function of Life Skill and Physical Activity by Session

Moreover, youth rated themselves consistently higher on the element of leadership compared to the leader ratings (see **Figure 4**). However, it should be noted that based on the leader ratings, the youth improved two full units (on a scale of four) from the start to the end of the program. It was observed that there was a large discrepancy between the youth and leader ratings on the first session (Confidence and Courage/Co-operative Games) and the third session (Respecting Others/Kickboxing) on leadership. In these two situations, the youth rated themselves 1.5 units higher than the leaders. It was noted by the leaders in the logbook that there were concerns whether the first session was a success: "Yes and no. The girls participated, but a few of the girls cheated" (October 11, 2011) while in the third session, it was recognized by the leaders that the guest leader who came in to teach Kickboxing structured the session very much like a class and therefore youth were not provided much opportunity to take on a leadership role which may explain the lower rating. It could be hypothesized that youth rated themselves higher because they felt they did a good job staying focused and being good 'students'. Therefore, future programs may want to take this into consideration, and provide an option in the self-evaluations to state whether there were limited opportunities for the youth to take on leadership opportunities. Moreover, it would be critical to ensure that any guest leaders structure their content to foster opportunities for leadership for the youth. Finally, similar to self-control and effort, leadership was also rated lower in the Dance (Dare to Dream) session as well during the second and third Yoga sessions (Relaxation and Focus) which seemed to be sessions the youth had difficulty with effort and self-control which could help explain why they also rated themselves lower on leadership. This finding helps support the TPSR model in that it is difficult for youth to perceive themselves as leaders when they are having difficulty with self-control and effort.

Similar to self-coaching, the leaders rated the youth highest during the sessions in which leadership was of specific focus; particularly nearing the end of the program when youth were planning and implementing their own life skills and physical activity session to younger Boys and Girls Club members. "Overall session was great for the girls who took ownership and led a great activity. They were all very proud of themselves and should be" (May 9, 2012). These findings reflect results from past research in that, when youth are provided with specific leadership opportunities, the youth stepped up and utilized their skills (Bean et al., 2014; Denner, Meyer & Bean, 2005; Larson, Hansen & Walker, 2005). As Hellison (2011) outlined leadership opportunities are typically integrated into a program curriculum near the end of program as it is considered to be the fourth level of the model. However, in our experience we suggest that leaders provide such opportunities for youth throughout program and not simply near the end of the program. It can be recommended that as youth settle into a program (e.g., after the first month), the leaders create leadership opportunities for youth to help facilitate the development of this skill earlier in the program. For example, early on in the program youth could explain the rules of a game and, as the program progresses, youth could be provided with an increasing amount of responsibility such as leading a discussion or an activity and, towards the end of the program, teaching what they have learned to younger peers. This recommendation is seconded by Wright et al.

(2011) as one of their future directions included increasing opportunities for leadership roles throughout the program.

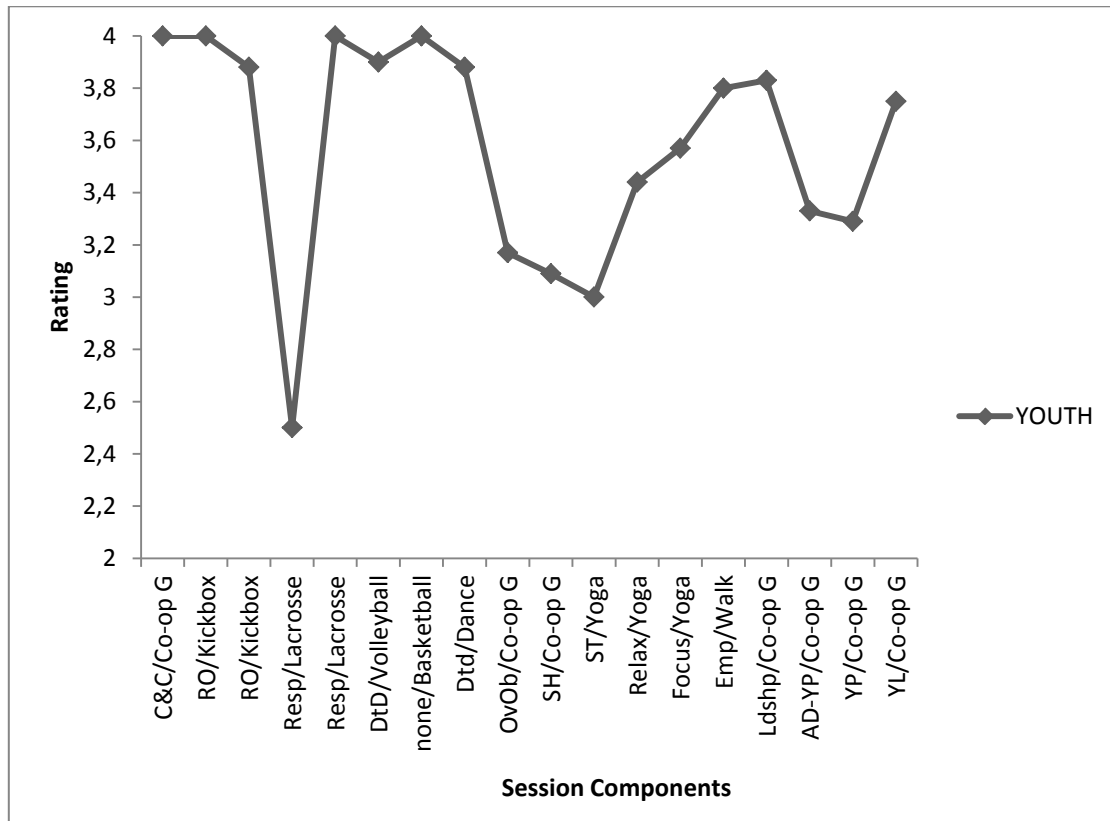


Figure 5. Youth Ratings of Transfer as a Function of Life Skill and Physical Activity by Session

Transfer was solely evaluated by the youth. Their ratings appeared to remain fairly consistent overtime. The youth appeared to be confident (rating themselves as good (3) or great (4) for the majority of the sessions; see Figure 5). The only time transfer dropped below a good (3) rating was for a session that focused on the life skill of Responsibility that was then reinforced with Lacrosse as the physical activity. However, it was observed that this low rating may have been a result of the overall atmosphere of the session and not the content of the session. During this session, the life skill activity involved completing a worksheet related to brainstorming one way they could take responsibility in different areas of their lives. While this activity was intended to have a direct element of transfer for the youth to other domains, it was not well received by the youth as it was too much like homework. From the Leader Logbook it was noted "...it (the worksheet) got the girls thinking about how they could take on more responsibility in different environments (but) ... too much like school ... and we lost some participation from some girls during the session" (November 8, 2011). Hence, it appears that even when a life skill activity is targeted at a particular TPSR level, if the youth do not enjoy the activity, they make take very little away from the activity reinforcing the

importance of having engaging activities that the youth enjoy and are not like schoolwork.

Overall, however, youth appeared to be confident that they could transfer the skill to other domains of their life (e.g., school). This is consistent with other research that has investigated transference of life skills within sport (Armour et al., 2012; Weiss et al., 2012). More specifically, Armour et al. (2012) and Weiss et al. (2012) looked at youth sport and physical activity interventions and found that participants successfully transferred life skills (e. g., teamwork, leadership, respect, emotional management and communication) that had been learned in the program to alternative settings such as school, home, and workplace. Although this study did not actually measure transfer, results from the self-report of transfer suggests that youth were confident in their overall ability to transfer the majority of the life skills focused on within GJWHF; still, future research should investigate and attempt to measure life skill transfer.

4. CONCLUSION

Overall, the results from this study indicated that participants' self-ratings of –“the five TPSR”– levels often varied based on the type of life skill and physical activity of each program session, but overall showed a gradual upward trend which was also supported by the results of the dependent t-tests. Although the youth participants were given choice in this program with regards to physical activity, there were still sessions that the youth did not appear to enjoy which seemed to negatively impact ratings, indicating that engaging activities are critical in facilitating enhanced levels of responsibility of youth. The most interesting trend observed across the different TPSR levels was that self-control, self-coaching, and leadership were all rated ‘great’ for the last sessions of the program. It was during these sessions when the youth took on a leadership role and were responsible for developing and implementing their own program sessions to younger youth at the club (e.g., teaching a life skill and reinforcing the skill through physical activity). In sum, this finding indicates the importance of integrating specific opportunities for self-coaching and leadership once the youth have become familiar with the program and activities as these opportunities seem to help reinforce and strengthen the TPSR levels together.

As previously mentioned, the majority of research on TPSR-based programs has been with an all-boys or mixed-gender samples. This was one of the first studies that investigated the TPSR model within an all-female group. Although this study did not allow for a comparison of outcomes across a mixed-gender group and single gender groups, the positive outcomes of this study may be explained, in part, due to the female-only composition of the group. Previous research has shown that female youth tend to prefer this type of social environment, particularly in physical activity settings (Forneris, Bean, Snowden & Fortier, 2013; Coleman, Cox & Roker, 2007). More specifically, the increases in TPSR levels, particularly effort and self-control may be partly due to the integration of activities that females typically enjoy. Research has shown that male and female youth have different preferences for physical activity with

females having a preference for activities such as swimming, dance and walking (Slater & Tiggemann, 2011; Wilson, Williams, Evans, Mixon & Rheaume, 2005; Canadian Fitness and Lifestyle Research Institute, 2006). As a result, it appears that TPSR based-programs can be effective with a female-only group and it is recommended that when working with different sub-groups of youth practitioners incorporate activities which the youth are motivated to engage in.

Although this study does show that the TPSR model may be effective for helping youth develop in a number of positive ways, there were limitations that should be acknowledged. There was a small sample size of only 12 female youth, as well as only 8 girls at two time points for the PSRQ, which limits the power of the statistical analyses to detect significant differences, as well as generalizability of the results. The small sample size also limited the ability to examine the impact of attendance on self-evaluations, as well as the age and individual differences of youth participants. In addition, the majority of the data in this study is based on self-report and not actual observed change and therefore future research is needed to examine actual changes in life skill development and personal and social responsibility. Finally, in future research it is critical to ensure that youth and leaders are in agreement of the definitions of the five different TPSR levels. As such, a recommendation for future programming is to add in a trigger question beside each level of the TPSR evaluation so that both youth and leaders have a constant reminder of the definition of each level.

What Does This Article Add?

Overall, the findings from this study help contribute to a growing body of evidence that supports the effectiveness of well-implemented TPSR programs (Walsh et al., 2010). Using a time-series analysis design was beneficial in allowing an examination of how TPSR levels may be impacted over the course of the program as well as by the particular structural content of a program's curriculum. Furthermore, this study represents an important step in responding to calls for increased evaluation in community-based programs (Salmon, Booth, Phongsavan, Murphy, & Timperio, 2007) and aids in understanding the process in which PYD programs, specifically those utilizing the TPSR model, can be effectively implemented. Currently within the field of PYD there is a lack of integration between theory and actual program practice (Brink & Wissing, 2012). This was the first known study to incorporate a time-series analysis into findings within the PYD literature, which proved to be helpful in gaining an understanding of how actual program curriculum can have an impact on enhancing the various levels of responsibility as defined by the TPSR model. Finally, it is hoped that findings from this study may help to inform research and practice related not only to the TPSR model, but also to the broader field of youth development in physical activity programming.

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