Young Athletes Globalization Project

Final Report

Paddy C. Favazza, Gary N. Siperstein, Kathleen Ghio
Center for Social Development and Education
The University of Massachusetts Boston
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Introduction

Young Athletes is a motor play program that uses fun activities to support the development of children with intellectual and developmental disabilities who are 2 ½ to 7 years of age. Through the Young Athletes program, children develop motor, social and school readiness skills, families develop networks of support, community awareness and engagement is elevated. The Young Athletes program has its roots in the US, where it was developed by Special Olympics New Jersey in 2004. The YA program filled a gap in Special Olympics programming by providing programs for younger children with intellectual and developmental disabilities (IDD). YA was also timely given that most children with IDD are identified with IDD during this age span, many of whom have motor challenges that are particularly notable during this period of rapid progression in child development.

Indeed, motor development is one of the most universally salient areas in child development. Regardless of culture or country of origin, parents around the world can immediately see their child's developmental progress when their young child rolls over, sits independently, reaches for objects, crawls, walks and runs. Likewise, delays in motor development can also be seen, signaling that the child is not developing in a typical fashion. And, within the US landscape and many other countries, a significant portion of young children with IDD are identified early, have access to free early intervention and preschool by qualified teachers with an emphasis on school readiness and inclusion. In this landscape, the YA program can be viewed as an excellent addition to the many programs that are available for young children IDD and their families.

However, this reality is not reflective of the global landscape. Eighty percent of individuals with disabilities live in developing countries and over 90% of them do not have access to education (UNESCO, UN Development Program, 2014). In the global landscape, they represent the largest and most marginalized minority group where infants with IDD are often not counted when they are born, do not receive adequate healthcare and developmental screening, do not benefit from early identification, early intervention or preschool. In many countries, where the pervasive societal message is that children with IDD do not count or cannot learn, a ripple effect occurs when a motor delay and/or IDD is seen in a very young child. The family is shamed and shunned into acute isolation, children are hidden, locked in their homes and left out of much needed early educational programs. Simply put, delays are exacerbated and development is stunted, fulfilling the societal prophecy.

When YA takes place in this global context, families and communities see remarkable and multiple improvements in the child's motor abilities, interactions with others, social and communication skills, school readiness skills and confidence. Immediate and significant changes in the child signal that development is amenable to change when they participate in the 8-week YA Curriculum with teachers, YA leaders and parents. In this bleak landscape, the YA program sends a different message, a different ripple effect as parents *and* the community sees immediate and visible changes in children. Parents change their perspectives about and expectations for their children and begin interacting with their children, accepting their children. Community members see that with ongoing support, children with IDD can learn new skills and behaviors, much like their typically developing peers. The societal narrative changes; children with IDD are unlocked, brought out of hiding to learn, laugh, grow, change. The child becomes an agent of change within the family and within the community. This report presents the results of implementing the Young Athlete program in Romania, Kenya, Tanzania, Venezuela and Malawi. While there are different models of YA, all countries in the YA Globalization Project used the Young Athletes Curriculum (Favazza, Zeisel, Parker & Leboeuf, 2011) in school and community settings. In the following section, an overview of the YA Models and the YA Curriculum is presented.

Young Athletes Models

Over the past 10 years, the Young Athletes program has taken on 4 basic formats or models. The different YA models varied with regard to where it occurred, how often it occurs, who leads it and the materials used (see Table 1). The YA Demonstration and the YA Family Model utilize the YA Activity Guide while the YA School Model and the YA Community Based Model utilize the Young Athletes Curriculum. During the Young Athlete Globalization Project, countries were asked to implement the Young Athletes Curriculum in settings that best fit each community setting. The Young Athlete Curriculum is described in the next section.

Table 1. Young Athlete Models

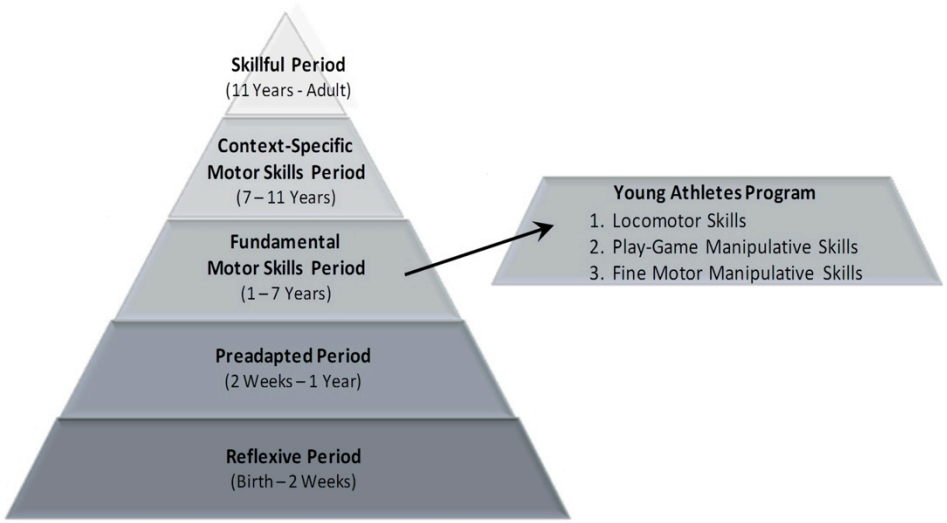
	Where	**How Often**	**Led By**	**Uses**
YA Demonstration	Public Event with Audience	One Day	SO staff Volunteers Parents	Activity Guide
Family Model	Home or Neighborhood	Varies: Parent Decides	Parents Siblings	Activity Guide
School Model*	School	3 days a week for 8 weeks	Teachers Parents	YA Curriculum*
Community Model*	Community Setting	1-2 days a week	Teachers Parents Siblings or SO staff	YA Curriculum* or Activity Guide

**Evidenced Based Data US and Globally*

Young Athletes Curriculum

Expanding on the YA Activity Guide, the Young Athletes Curriculum (Favazza, Zeisel, Parker & Leboeuf, 2011) is a motor intervention that focuses on skills such as visual tracking and motor imitation as well as walking and running, balance and jumping, trapping and catching, throwing, striking, and kicking. The skills taught are based on the Fundamental Motor Skills Period of Clark's mountain of motor development (Clark, 1994) (see Figure 1).

Figure 1. Clark's Mountain of Motor Development



The 8-week program consists of 187 motor activities within 24 detailed lessons addressing these fundamental skills; each 30-minute lesson includes an opening motor movement song, 4-6 motor activities, and a closing motor song. It is typically delivered 3 days per week over a period of 8 weeks, consistent with *minimum* recommendations that motor programs be at least 1 hour per week (NASPE, 2002; Trawick-Smith, 2010; Riethmuller et al., 2009). It has demonstrated efficacy in the United States, with randomized controlled

trials showing that children with disabilities can make 7 months gain in motor skills in a three-month period (Favazza, Siperstein, Zeisel, Odom, Sideris & Moskowitz, 2013).

In a span of 8 years, the Young Athletes program has been evaluated to document 3 questions: a) How and Where is It Implemented; b) Is It an Effective Motor Program in the US? c) Is it Adaptable and Effective in the Global Context? In addition, with each of these studies, we continually gathered information from those who use the program as to what else was needed to strengthen the YA program. See Table 2.

Table 2. Research and Development

	Setting and Sample	**Model**	**What Have We Learned About Young Athletes?**	**What Else is Needed to Strengthen the Program?**
2006-2007 YA Formative Evaluation	11 countries 1510 children Ages 3-9	YA Activity Guide	How and Where is it Implemented? • Wide variation (at least 4 models) • Preschool usage most common	Need for • Lessons • Structure • Training for teachers • Document efficacy: measure motor gains on individual US children to document benefits
2010-2012 YA Summative Evaluation	2 US states 234 children Ages 3-5	School Model YA Curriculum	Is it Effective in the US? • Effective in increasing motor skills • Improvements in adaptive behavior	Need for • Longer program • Measure that can be used with the YA Curriculum • Document efficacy: measure motor gains in children in global context
2012-2014 YA Global Expansion	4 countries 103 children Ages 2-10	School Model Community Model YA Curriculum	Is it Adaptable and Effective in Developing Countries? • Adaptable and effective in impacting child, family, community • Need for tools (Family Resources, YAMC, Adaptation Guide, more lessons)	Need For • Longer Program • Motor Measure • Adaptions inserted into YA Curriculum • Family Component Developed • Inclusion Measure

Young Athletes Kick Off Meeting

This report pertains to the most recent study of YA, the Evaluation of the YA Globalization Project, which began with a Kick-Off Meeting in Washington, DC in October 2012. The meeting included YA leaders and their university partners from Kenya, Tanzania, Romania, and the YA leader from Malawi and Venezuela. An overview of the YA curriculum was presented with the data demonstrating its effectiveness when implemented in the US. Participants also discussed ways that YA would be adapted for implementation in the various countries. Finally, an overview of evaluation materials and timelines for each was provided to ensure that data could be collected from each country. In November-December of 2012, country representatives began recruitment activities, translation of materials (as needed), review and training of other on the assessment measures, order equipment and so on, in preparation for implementing YA in their respective countries.

Table 3. Exploratory Conversation

Initial Questions	Malawi	Venezuela	Tanzania	Kenya	Romania
What is the status of children with disabilities in your country?	In general, children with disabilities do not have access to various therapies/services (other countries have more access)	-Typically, families hide children with disabilities. - Special Olympics really use other families to recruit new Special Olympics participants	-Children typically attend regular school then are identified by a teacher. Those with mild disabilities are not typically labeled as disabled and may haven make it to high school (not perform at the same level) Those with moderate to severe disabilities attend special schools Many parents refuse to believe their child has a disability because there is such a strong stigma attached - The belief is that children/families with disabilities are "witched or cursed" - Having a child with a disability is believed to be a punishment for past actions - SO allows everyone to share experiences; the parents are not alone and there are children with ID in every country and every community - There is often the belief that ID is preventable - SO works to bring children out in the community; people talk to their peers - Hiding is making it worse - Families need to realize they are not the cause of ID	- There are many organizations for different disabilities - Children with mild disabilities might be able to finish primary and even high school. - Reaching out to 2-4 year olds is difficult; children with disabilities may stay at home up to age 8 - Sometimes doctors don't convey the correct information; they often say the child is mentally ill- there's a difference between mental illness and disabilities. - Kenya has a great family network with emotional support; however, there's a large number hidden - SO does a lot of work to have kids lead a normal life - Families (after receiving a diagnosis from a doctor) are told not to expect too much from the child - Families are not familiar with developmental milestones - Families are the biggest agents of change	-Many infants with disabilities are abandoned every day, placed on the doorsteps of hospitals. The hospitals have become the new institutional care for these children. They are supposed to be moved to orphanages but most spend the first 3-4 years of their life in a hospital ward. -Children who stay at home are often taken care of by their grandparents, while parents seek employment in other towns or countries. -Families face limited services in the country; children are in segregated schools. -Families who can afford it, form their own non-profit agency to provide individual services (OT, PT) for their child. These NGO's are not coordinated which results in duplicated services only for those who have knowledge about them and/or who have transportation to them.

			- SO is changing the community slowly - There is a great deal of stigma; for example, a sister of a mother of a child with a disability had to "kidnap" the child for the day to bring him in for a screening at Healthy Athletes		
What YA equipment and materials do you have, strategies you use for YA and, where do you currently implement the YA program?	YA equipment is distributed to the different training centers; however, they need more equipment They hold YA sessions outdoors typically	-They hold YA sessions both inside and outside Frequently hold YA on the basketball courts. For one program, they have four children and that his held in a living room; they hold some programs in a gym (25 children) - There are enough programs in other areas of child development to assist children with disabilities; thus, SO really just targets sports - There's a niche for SO - YA is so powerful but one concern is that you work on one exercise for so long. Curriculum needs to be expanded to challenge those in YA - If keeping	- They improvise equipment (example they use tape with cloth for the scarf item; they cannot get equipment to all the centers) - Frank (SO Representative) has access to air time and the radio to recruit families to SO Partners: - Schools; need a college-certificate to work with children with disabilities; teachers recruit students and bring children to school to become young athletes - Use television/radio	- Do not have any more equipment available to use for this project - Hold sessions both indoors and outdoors; there is generally space available Partners: Public/private schools, community centers (run by parents or run by a Baptist church)	- They have equipment and - YA is run in a separate school for children with disabilities.

		children from between ages 2 and 8, creativity is required because people are at different levels Partners: - Homes, communities, schools			
Why is YA important in your country?	Need a program for children less than 8 years old to develop motor skills; no organizations providing a program for this population	Answer to families; need to become connected to SO	It's a rights issue- they have a right to improve development; also, it is the best developmental age/period	Connect theory and practice (for teachers); raise awareness of abilities of these children; provides parents with guidelines; opportunities for movement activities	Opportunity to involve families; recruitment of families; community awareness; improving/ laying foundation for sports skills; creating interest among families
What are the perceived challenges with this project in your country?	Involvement of athletes, traditional leaders and families	Involve families! YA is during parents' work time	Involving families	Transportation	Different places/people; scheduling YA- OT, PT, ST, YA, Competing goods
In what setting will YA occur and how often?	Well- to –do school in Blantyre; 2 days during week (30 minutes each time); 1 time during the weekend (?) with families for an hour	More than 8 weeks; 2 days/week; 1.5 hr sessions; use physical therapists, OTs, and STs	2 days per week with parents (1-2 hours); 1 hour using trained coaches/teachers; one day is Saturday	They have already been in contact with the YA leaders in schools; 30 minutes; 3 days/week during PE class; university students and willing families and teachers will lead	2 times per week; 1 hour at least; (1-1.5 hours) with university students

How many children	20	?	10-20	They think they will obtain data from 10 children in a typical school setting and 10 children in an inclusive school setting (run by the community)	Possibly15-30 children
Is translation of materials needed?	No, English is the first language	Yes, but we already have YA Activity Guide translated into Spanish.	Yes, Swahili is main language spoken. However, they can only translate the Activity Guide. Not the full YA Curriculum.	No, teachers speak English	Yes, but the Activity Guide is already translated.
Which screening tools will be used?	MICS and ABILITIES Index	MICS and ABILITIES Index (already in Spanish)	MICS ABILITIES Index	MICS ABILITIES Index	ABILITIES Index
Which motor tools will be used?	MDAT, TGMD, YAMC	TGMD YAMC	TGMD YAMC	TGMD YAMC	TGMD YAMC PDMS
Other comments by YA Leader and/or University Partner		Most people in Venezuela that will be working with this program are very poor -We really emphasized including the family - This project will have different goals compared to the other SO programs where the emphasis is on competition	*The Tanzania team* are having difficulties affording the translation- we need to ask Gary if there is any way we can support Tanzania in this -Questions about t-shirts, equipment, and awards	- Not able to introduce the program to families- it won't be consistently implemented- families rarely have consistent work so everything changes on a daily/weekly basis -Parents have to pick up child from school so they can just give them the home at YA component each week	- Observation Checklist- who will assist with? Still up in the air because Aura and Roxana are running the YA sessions - Will not use the home component - Will try to talk to parents

Procedures Used in the Young Athlete Globalization Project

Procedures

Between January through June 2013, the countries had staggered starts of the YA program as the recruitment of children and YA leaders was finalized for most of the YA sites, pretesting testing was undertaken, university partners began sending pretest data to US, sites had ongoing communication with Favazza and Ghio at the Center for Social Development and Education. The evaluation team from each country was asked to administer 1 or 2 screening tools, 2 motor measures, the YA Leader Log and to describe the challenges and success of their YA programs and the perceived benefits. Young Athlete Leaders were also encouraged to make adaptations that reflected their country's particular needs and culture. Adaptations could be made to the structure, content, or equipment of the Young Athletes program. The equipment of the YA program, for example, could be adapted based on the ability level of the children or substituted based on the equipment each country already had. The evaluation team was also asked to repeat the training they received in at the Kick Off meeting which included: background on YA research and typical motor development, an overview of the YA Curriculum, suggestions about appropriate adaptations and an overview of the screening, motor and fidelity measures and the procedures for implementation of YA.

In addition, site visits were made to countries that had the YA program underway (Kenya, Tanzania, Romania, Venezuela) to observe YA, to interview YA leaders, university partners and in some instances, university students who volunteered. Site visits provided rich information about the challenges faced in each country by families who have young children with intellectual and developmental disabilities, the impact of YA on the child, family and community, the recommendations for expanding and sustaining YA programs, recommendations for the adaptation guide, recommendations for revisions for the Young Athlete Motor Checklist (YAMC).

First Site Visit: Romania, Venezuela, Kenya, Tanzania

The initial findings from the first site visits to Romania, Venezuela, Tanzania and Kenya were presented in a brief entitled, The Initial Report (see Appendix A), which was presented at the SOI Board meeting in November of 2013. As can be seen from the first site visit, even early on in the YA Globalization Project, it was clear that the Young Athlete program was adaptable for use in resource poor settings, could have far-reaching and profound impact on those who participate as it provides a multi-level influence on inclusion as it addressed the complex process that leads to a fully inclusive society.

Since then, we continued to receive post intervention data from countries, and focused on developing the resources to support YA Globalization: Developing Adaptation Guide (includes adaptations related to YA equipment, content, format, cultural diversity, diverse abilities, visual supports); Revising all surveys (SO leader survey, teacher feedback survey, family interview survey); Adapting the following tools based on feedback from the field (Young Athletes Motor Checklist (YAMC), the Young Athletes Progress Monitoring Chart, Young Athletes Leader Log (YALL); Writing the individual country reports and will be writing the final report (due August of 2014).

Finally, as discussed at the YA Deep Dive Meeting and again in September of 2013, there would be a need to return to some of countries (Kenya, Tanzania) and need to make a first time visit to other countries (Uganda, if time and resources allowed) to build sustained interest in the expansion of YA by presenting findings, identifying next steps within each country for broader implementation and inclusion of YA in community settings (schools) and, collecting first hand video-taped information from families, YA leaders, university partners and community leaders (leader in community, schools, etc.) regarding the benefits attributed to YA for children, families, communities, to be presented at the June 2014 meeting of the SO Board and to be used for future funding efforts (interview questions, to be developed).

Second Site Visits to Kenya and Tanzania

The broad objectives of the trip are listed below. More details about each objective are provided in Table 4.

1. Exchange of YA Information
2. Discuss/learn how inroads were made into schools and, how YA can be used as a vehicle for social inclusion
3. Discuss sustainability strategies
4. Observe YA in action in schools *and* video-tape interviews
5. Connect with the local USAID office and/or other potential funders

Table 4. Follow Up Site Visit

Objective	Country	Who is Involved?
1. Exchange of YA Information • share data on projects in the region • learn about challenges /solutions with YA implementation • learn about ways to increase family involvement and understanding of impact of YA on child development	Kenya, Tanzania	• SO/YA staff/leaders • University Partner • Representative of Ministry of Education • Parents
2. **Discuss/learn how inroads were made into schools and, how YA can be used as a vehicle for social inclusion** • Discuss/explore how Tanzania & Kenya can replicate Uganda's progress of getting YA into schools	Kenya, Tanzania SO: Consider developing a template of action steps based on what is learned	• SO/YA leader • Representative of Ministry of Education • Others?
3. Discuss sustainability strategies • Provide training for documenting YA impact: to sustain documentation of impact on child, family, community impact • Meet with university partner to seek commitment to YA participation for students who will be future teachers, social workers, health workers, inquire about need for disability content in university training programs • Inquire about the possibility of connecting YA with health screenings, registry of children with disabilities at schools	• **Tanzania**: Provide training on the Test of Gross Motor Development (TGMD) and other tools for measuring impact, plan for future technical support for data collection • **Kenya and Tanzania**: Discuss need to collect longitudinal data on TGMD and, need to think about ways to make YA inclusive when planning next YA programs	• YA Leaders • University Partner • Representative from School and/or Health
4. **Observe YA in action in schools *and* video-tape interviews:** Voices/Poignant Stories: Status of child with intellectual and developmental disabilities in their family? in their community? Examples of YA impact on child, family, community	Kenya, Tanzania Note. Each country will provide video camera and tripod, and someone to assist in setting up and video-taping her brief	• Children • Parents • YA Leaders/teachers

• This information will serve several purposes: presentation for the SO Board meeting, for potential funders, for item validation for Inclusion Index	interviews with key stakeholders	• Representative from Ministry of Education
5. Connect with the local USAID office or other potential funders Discuss/explore ideas for future partnerships for grant writing (ex: E-Reader program in Kenya with USAID).	Kenya, Tanzania	• SO /YA Leader • Appointment with representative from USAID office

Measures and Materials

Two measures were used to confirm the presence of a child's disability or developmental delay and the severity of his/her disability. *The Multiple Indicator Cluster Survey* (MICS) module on disability (UNICEF, University of Wisconsin, 2008) is a ten-item questionnaire used to identify children with congenital and developmental disabilities. The ten items ask about the child's visual ability, hearing, muscle movement impairments, language production and reception, health conditions, and activity limitations. The questions are typically presented in an interview format with a parent or caretaker providing responses. Based on this questionnaire, a child is classified as possessing a disability if one of the questions yields an affirmative response. Used in numerous cultural contexts, this questionnaire has demonstrated validity. *The ABILITIES Index* (AI) (Simeonsson & Bailey, 1988; Simeonsson, Gailey, Smith, & Buysse, 1995) was completed by the evaluation team to assess each child's abilities and disabilities across nine major areas: **A** Audition, **B** Behavior & Social Skills Social Skills, **I** Intellectual Functioning, **L** Limbs, **I** Intentional Communication, **T** Tonicity, **I** Integrity of Physical Health, **E** Eyes, **S** Structural Status. A rating for each child in each area is provided, with each numeric rating associated with a level of dissimilarity from the norm: 1 (*no impairment*), 2 (*suspected disability*), 3 (*mild disability*), 4 (*moderate disability*), 5 (*severe disability*), 6 (*profound disability*). The AI has demonstrated adequate test-retest reliability (ICC = 0.70, weighted kappa = 0.77) (Bailey, 1993) and validity (Buysse, Smith, Bailey, & Simeonsson, 1993).

The Test of Gross Motor Development (Ulrich, 1985) is the primary motor measure used in this evaluation to assess children's gains in motor skills, prior to and after the completion of the Young Athletes program. The TGMD is a standardized test designed to measure a child's gross motor abilities. Twelve gross motor skills are assessed by the two subtests of the TGMD: Locomotor (e.g., walk, run, gallop, leap, horizontal jump, and slide) and Object Control (e.g., ball skills with a stationary ball, catch and kick a moving ball, overhand/ underhand throw). Each child is scored 1 for a pass or 0 for a failed attempt. The TGMD has demonstrated validity and high reliability (content sampling exceed .8; time sampling exceeds .88; test scorer reliability .98). In addition, the *Young Athletes Motor Checklist* (YAMC) (Favazza, Zeisel, & Ghio, 2013) was developed for this evaluation with first round pilot of the instrument undertaken. Because the Young Athletes program is implemented in many countries that lack assessment tools to measure children's motor levels which is needed to document efficacy of the YA program (for parents, YA Leaders, funders, etc.), it was critical that a

tool be developed which corresponds to the program to enable YA Leaders to document change in children who participate in the program. The Young Athletes Motor Checklist (YAMC) is a curriculum based assessment tool which directly corresponds to the YA Curriculum and is designed to assess the motor skills of children ages 3-5 years with developmental delays who are also participants in the Young Athletes program. The YAMC, a 35-item assessment, includes the subscales of locomotion (20 items), object manipulation (10 items), and stationary (5 items). The raw score of each Subdomain is converted into a percentage of items successfully completed with a high percentage representing high motor skill on a subdomain and a low percentage representing low motor skill on a subdomain. For example: a raw score of 5 out 20 items successfully completed on the Locomotion Subdomain would be a low score (5/20 or 25%) versus or 15/20 items (75%) would represent a higher score. The motor items were selected based on their correspondence to the YA Curriculum and their representation on the following motor measures: the Center for Disease Control (CDC) Developmental Milestones, the Peabody Developmental Motor Scale, the Test of Gross Motor Development and the Denver Screening II. Additional information about the development of the YAMC is provided in Appendix F.

The *Young Athletes Progress Monitoring Chart* (Favazza & Ghio, 2013) was developed to enable YA Leaders to monitor discrete skill acquisition as it is addressed in the YA Curriculum. Using the chart, YA Leaders could easily determine which skills a child has mastered and which skills need more attention in the next YA sessions. While this was not used as a pre/post measure, it was a tool that supported focused and individualized approach when using the YA Curriculum.

Perceived Benefits Survey. Both the Young Athletes leader and families of participants completed a post intervention survey (or interview, guided by survey questions) about their perceptions of benefits derived from participation in YA. The Young Athlete leader and families were asked to comment on benefits the children derived from the program as well as on the broader impact of the program (e.g., motor and social benefits, impact of YA on families and the community).

Fidelity of Implementation. The fidelity of implementation was evaluated in three ways to document the amount of exposure children had with the YA program, First, a record of attendance was taken to document the amount of the YA intervention received by each child. In addition, the YA Leader Log (YALL) (Favazza, Ghio & Siperstein, 2013**)** was used to document the consistency in which the YA Leader implemented the 187 YA activities that were embedded within the 24 YA lessons. Lastly, the duration of each

30-minute YA lessons was recorded on the YALL; with the total amount of time spent in YA lessons equivalent to 720 minutes (*24 lessons x 30 minutes =720 minutes).*

The YALL lists all of the YA activities for each week with follow-up probes about changes made to the YA activities, equipment, structure and content. In addition to the YALL, during one on-site visit, the YA Leaders were observed by the authors/researchers leading YA and interviewed about the kinds of adaptations they utilized. Collectively, these provided information about the ways in which YA was adapted. C) Observation checklists: University partner staff conducted weekly observations of the YA sessions using the Observation Checklist. The checklist included questions about: (a) completed activities, (b) length of each lesson, and (c) additional notes regarding children's reactions and the quality of implementation.

Results: Romania

Evaluation Team and Setting

The evaluation team of the Young Athletes program in Romania included Roxana Ossian, the Special Olympics Romania representative and The University Partner, Aura Bota, a Professor of Sports Education at the National University of Physical Education and Sports who also served as the YA Leader. Two additional university professors in Physical Education, a psychologist, and over 20 graduate students in Physical Therapy/Sports Education at the National University of Physical Education and Sports regularly participated in both the testing activities and the implementation of Young Athletes.

The site for the implementation of the YA program, the National University of Physical Education and Sports, was selected based on both proximity to the evaluation team and the wealth of resources it offered for the Young Athletes program. The National University of Physical Education and Sports had facilities readily available (a gymnastics hall) with equipment (balance beams, hurdles, mats) and storage space that could be used for the YA program. Additionally, volunteers (graduate students) were recruited from the university to work with the Young Athletes.

Participants

A total of 35 children participated in the Young Athletes program, and 33 of these children had some level of developmental delay (29 children had an intellectual disability, and 4 children had autism). Parents had been given their child's diagnosis by a physician or by a psychological evaluation team. Of these 33 participants, 19 (54%) were boys, and the age of participants ranged from 1.2 to 8.6 years old. Both the MICS and the ABILITIES Index were completed through parent interview. Table 5 displays mean ratings in each area assessed by the ABILITIES Index. In general, children were within the below normal to suspected disability range for audition, limbs, tonicity, integrity of physical health, and vision. With regard to behavior and social skills, intellectual functioning, intentional communication, and structural status, children's ratings were in the mild impairment range.

Table 5. Mean Ratings on the ABILITIES Index

Audition	Behavior and Social Skills	Intellectual Functioning	Limbs	Intentional Communication	Tonicity	Physical Health	Eyes	Structural Status
1.13	2.00	2.53	1.39	2.27	1.88	1.75	1.25	2.13

While all 35 children participated in the Young Athletes program, only 16 were selected for data collection. Inclusion criteria for data collection included: (1) parental consent for participation, (2) the ability to walk independently, (3) the ability to follow simple directions, and (4) the ability to attend to motor tasks during testing. Participants selected for data collection include 7 boys and 9 girls, ranging in age from 2.4 years to 8.3 years old. As reported by parents, 15 of these 16 participants had an intellectual disability, and 1 had autism. Diagnosis was given to parents by physician and/or by a psychological evaluation team.

Procedure

After the site was selected, the Young Athletes leader recruited children to participate in the program. The YA leader recruited children by contacting a variety of NGOs that the Special Olympics Romania had previously worked with. The NGOs then contacted families of children with disabilities, providing background on the Young Athletes program and asking if they would be willing to participate. Parental consent was then obtained from those parents who indicated willingness for their children to participate. The evaluation team and Young Athletes leaders were trained prior to implementation of the program. Training included background on research and theory of motor development, an overview of the YA curriculum, suggestions about appropriate adaptations for the Young Athletes program, and an overview of the assessment tools and methodology. Prior to beginning the Young Athletes program, the evaluation team, specifically the psychologist on the team, administered the identifying instruments, with input from parents.

The evaluation team (the university partner with the help of 2-3 assistants) tested each child before and after YA implementation using the TGMD and YAMC. The very young children and/or low functioning children were tested one-on-one, while

other children were tested three at a time. Testing for the TGMD took approximately 20-30 minutes per child, and testing for the YAMC took an additional 20-30 minutes. The Young Athletes Leader carried out the Young Athletes program at the site, with the program occurring two times each week for a total of 12 weeks. The YA Leader completed an attendance record and the YALL after each lesson, and the university partner completed the observation checklist at least once a week.

Results

Fidelity of Implementation. Results from the Young Athletes Leader Log (YALL) indicate that the Young Athletes leader completed 74% of the 187 YA activities. Additionally, reports from the YALL indicated that the program took place twice a week and the average YA session lasted approximately 75 minutes. The YA Observation Checklist confirmed the Young Athletes Leader's reports. The university partner completed the YA Observation Checklist and was present for 42% of the lessons. In line with the Young Athlete leader's report, the university partner indicated that 74% of the lessons were completed during the lessons he/she observed and the average session lasted approximately 75 minutes. In addition, attendance records indicated that, on average, children were present for 60% of the Young Athlete lessons. Reasons children were not present for some of the lessons included weather-related problems, and illness.

In completing the YA Observation Checklist, the observer commented on the behaviors/reactions of the children and the quality of implementation. The majority of the time, the observer indicated that the children were enthusiastic and actively participating in YA. It is also noteworthy that this was the first group activity for most of the children. Because of this, many children exhibited behaviors such as inattention, short attention span, disruptive, difficulty following directions, and difficulty separating from parent or grandparent. However, these behaviors improved greatly over the course of the YA program, as did the capacity of the university students' abilities to respond to the child's behaviors. In terms of quality of implementation, the observer noted that, almost all the time, the YA leader was enthusiastic, engaging all the children, managing the children's behaviors, and structuring the lessons appropriately.

Adaptations. In Romania, the YA Leader implemented 2-3 lessons (with only one Opening and Closing Song) during each 75-minute session. During the lessons, graduate students worked one-on one with Young Athletes, adjusting the activities to the child's abilities. In completing the YA Observation Checklist, the observer commented on the behaviors/reactions of the children and the quality of implementation. The majority of the time, the observer indicated that the children were enthusiastic and actively participating in YA. It is also noteworthy that this was the first group activity attended by most of the children. Because of this, at the onset of YA, many children exhibited behaviors such as inattention, short attention span, disruptive, difficulty following directions, difficulty separating from parent or grandparent. However, these behaviors improved greatly after attending YA for several weeks, as did the capacity of the one-on-one university student's abilities to respond to the child's needs. In terms of quality of implementation, the observer noted that the YA leader was enthusiastic, engaging all the children, managing the children's behaviors, and structuring the lessons appropriately.

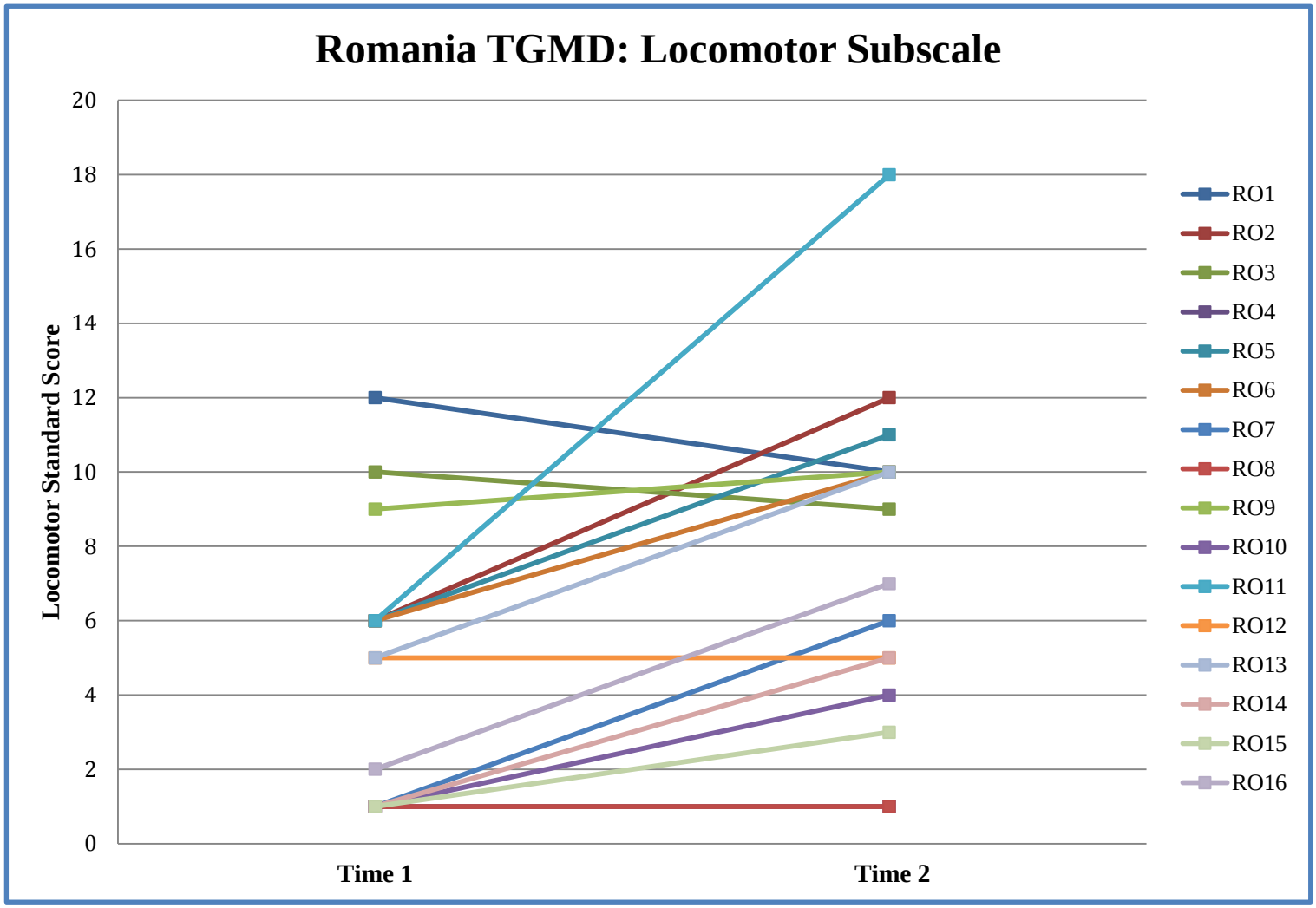
Motor Skill Development. Raw scores on the object control and locomotion subtests of the TGMD were converted to standard scores based on age and gender. Standard scores were then converted to the Gross Motor Quotient, a composite of the results of the two subtests. Mean scores at pre and post on the Gross Motor Quotient and the object manipulation and locomotion subscales are provided in Table 6.

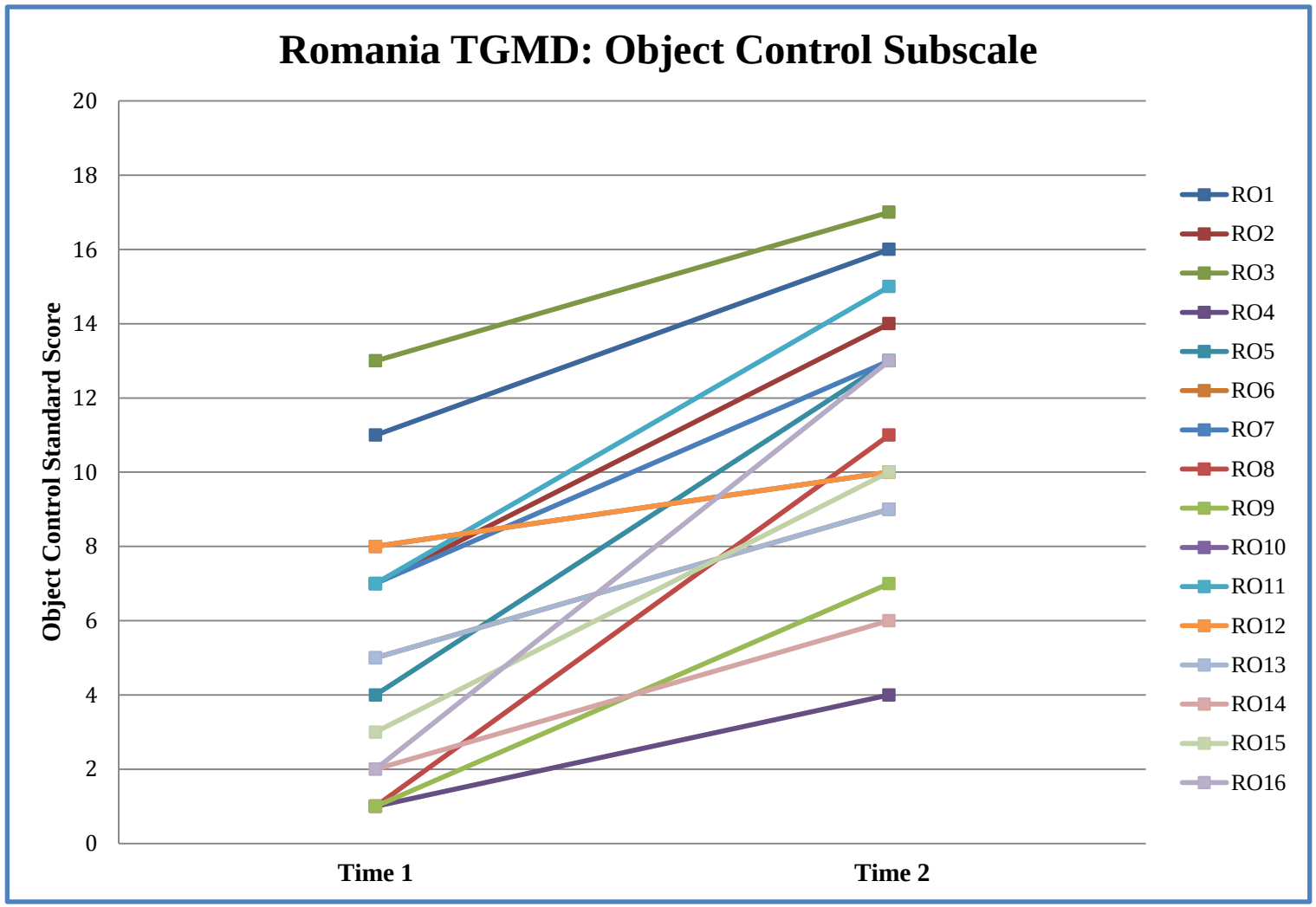
Table 6. TGMD: Gross Motor Quotient, Locomotor and Object Manipulation Subscales

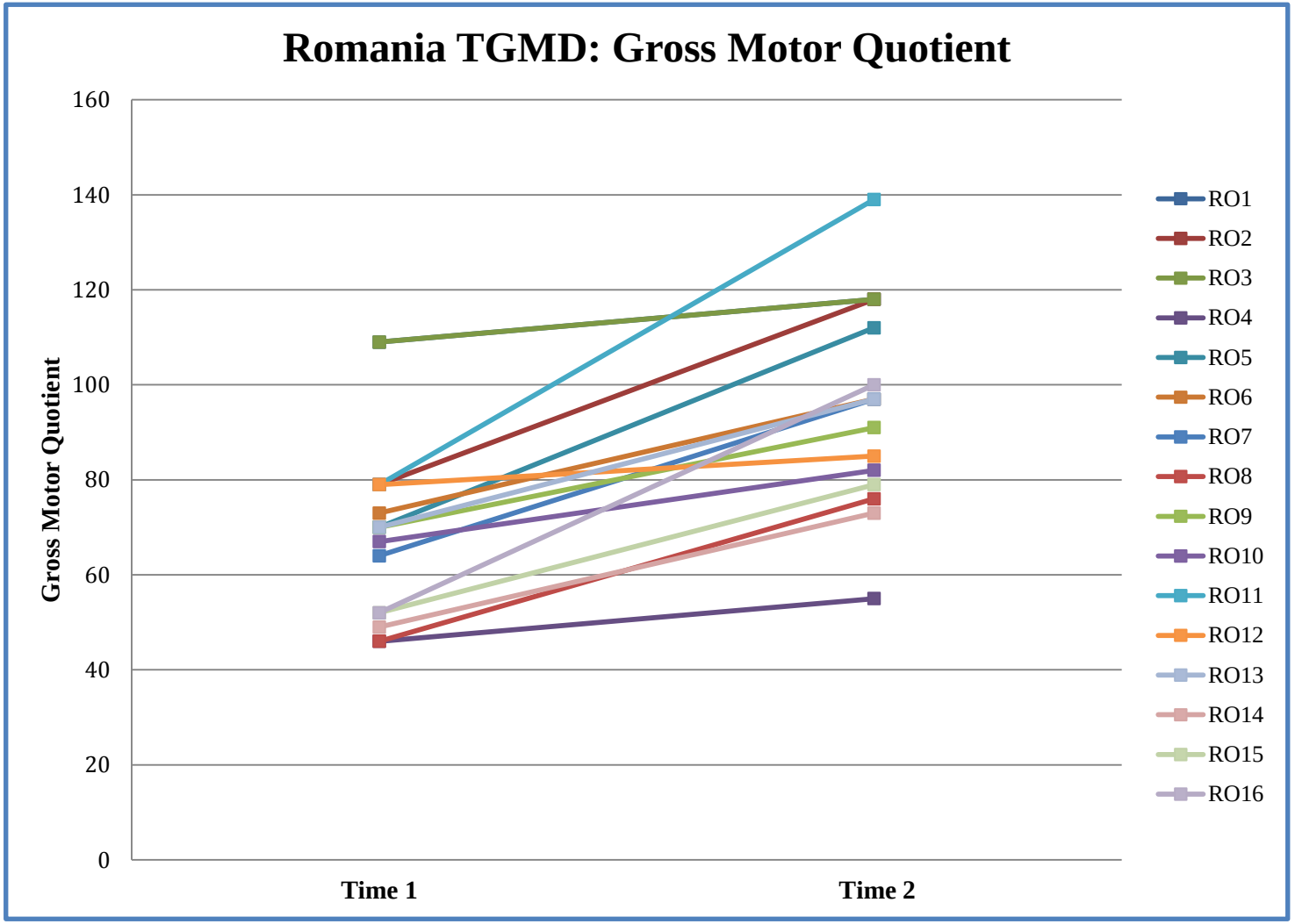
	Pre-Intervention (Mean Standard Score)	Post-Intervention (Mean Standard Score)
Gross Motor Quotient	69.63	96.06
Locomotor Subscale	4.56	7.63
Object Manipulation Subscale	5.31	11.06

We first examined the Gross Motor Quotient scores at pre and post-test in relation to what each child should be achieving motorically given his/her age and gender. At pre-test, only 2 children (out of 16) were within one standard deviation of the mean gross motor score for their age and gender. In fact, the other 14 children were more than two standard deviations below the mean score for

their age and gender, indicating that they were substantially delayed in their motor skills. However, by post-test there were significant improvements and almost three quarters (69%) (11 out of 16) of the children were within one standard deviation of the mean score for their age and gender. We also examined group differences in motor scores on the TGMD. Paired samples t-tests were conducted to compare the Gross Motor Quotient pre-intervention to the Gross Motor Quotient post-intervention. There was a significant difference between the gross motor quotient pre (M= 69.63, SD= 19.28) and post (M= 96.06, SD= 21.32) Young Athletes; t (15)= 6.87 p< .001. To further explore the differences in the Gross Motor Quotient, we conducted paired sample t-tests of the locomotor and object control subtests. There was a significant difference between the scores for the locomotor pre (M=4.56, SD= 3.61) and post subtests (M= 7.63, SD= 4.49); t(15)= 3.527 p<.001). There was also a significant difference in the object control pre (M= 5.31, SD=3.65) and post subtests (M= 11.06, SD= 3.65); t(15)= 8.38 p<.001. Overall, it is clear that the participants significantly improved in their gross motor skills (both locomotion and object control skills) as measured by the TGMD. *YAMC.* In addition to examining gains on the TGMD, we also examined each child's performance on the Young Athlete Motor Checklist (YAMC) before and after participation in YA. Specifically, we examined each child's score on the locomotion and object manipulation subscales as well as the total score obtained. These results are consistent with the TGMD scores, suggesting that the majority of children improved in their motor ability as a result of participating in the YA program. Graphs of the results of the pre and post testing on the TGMD and the YAMC are presented below.


Romania TGMD: Locomotor Subscale
Locomotor Standard Score
20
18
16
14
12
10
8
6
4
2
0
Time 1
Time 2
RO1
RO2
RO3
RO4
RO5
RO6
RO7
RO8
RO9
RO10
RO11
RO12
RO13
RO14
RO15
RO16


Romania TGMD: Object Control Subscale
Object Control Standard Score
20
18
16
14
12
10
8
6
4
2
0
Time 1
Time 2
RO1
RO2
RO3
RO4
RO5
RO6
RO7
RO8
RO9
RO10
RO11
RO12
RO13
RO14
RO15
RO16


Romania TGMD: Gross Motor Quotient
Gross Motor Quotient
160
140
120
100
80
60
40
20
0
Time 1
Time 2
RO1
RO2
RO3
RO4
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RO6
RO7
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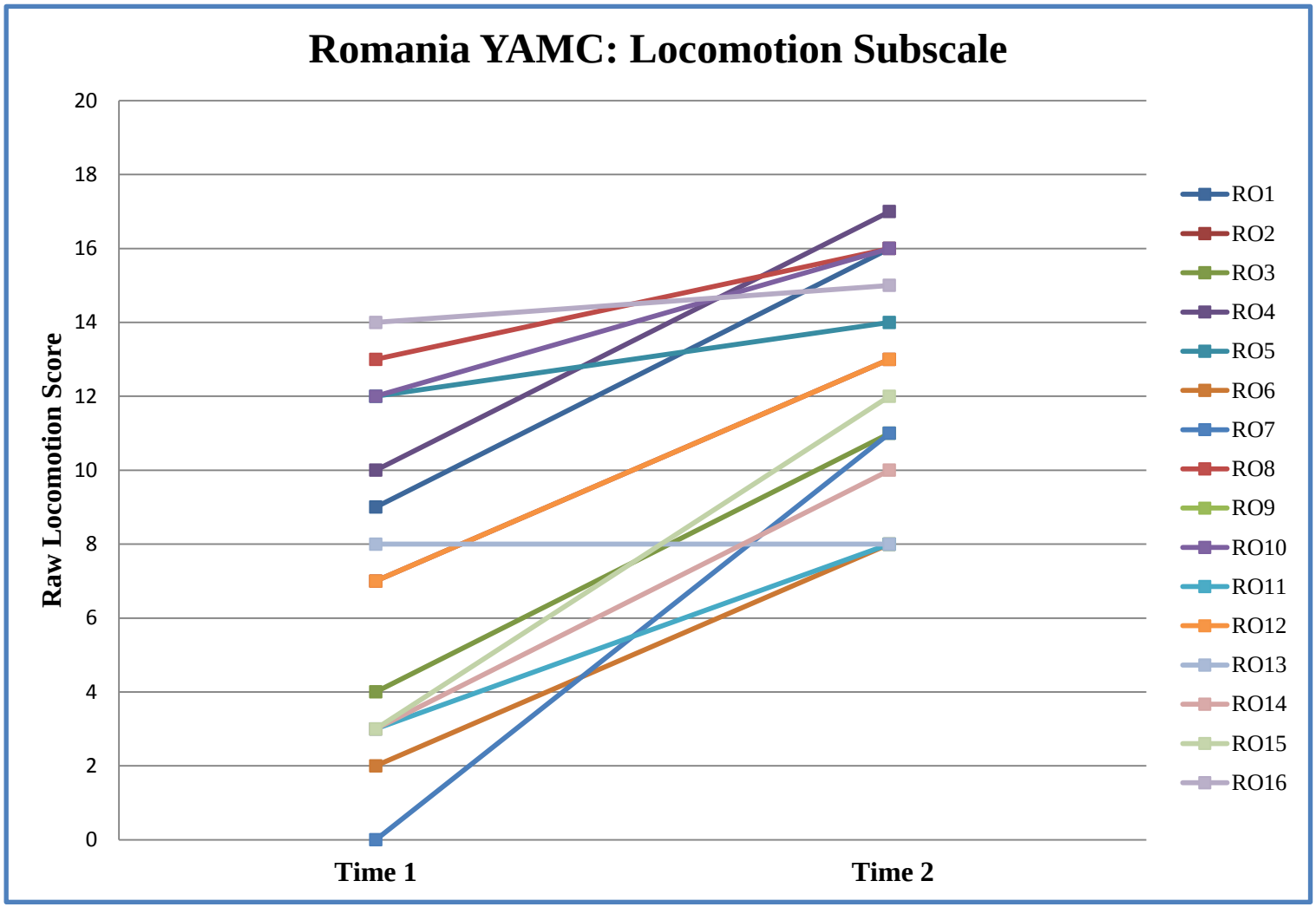
RO10
RO11
RO12
RO13
RO14
RO15
RO16


Romania YAMC: Locomotion Subscale
Raw Locomotion Score
20
18
16
14
12
10
8
6
4
2
0
Time 1
Time 2
RO1
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RO3
RO4
RO5
RO6
RO7
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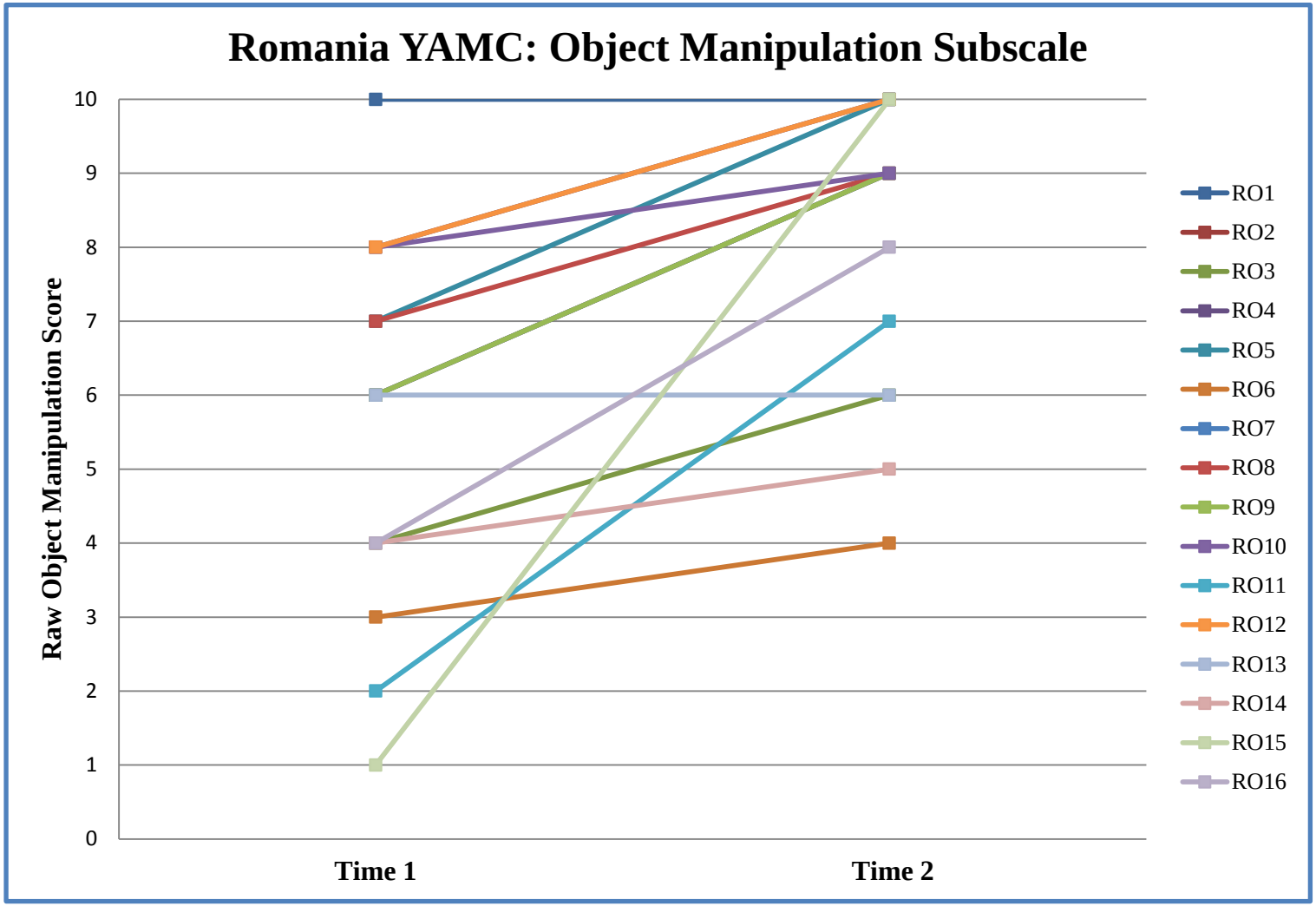
RO10
RO11
RO12
RO13
RO14
RO15
RO16


Romania YAMC: Object Manipulation Subscale
Raw Object Manipulation Score
10
9
8
7
6
5
4
3
2
1
0
Time 1
Time 2
RO1
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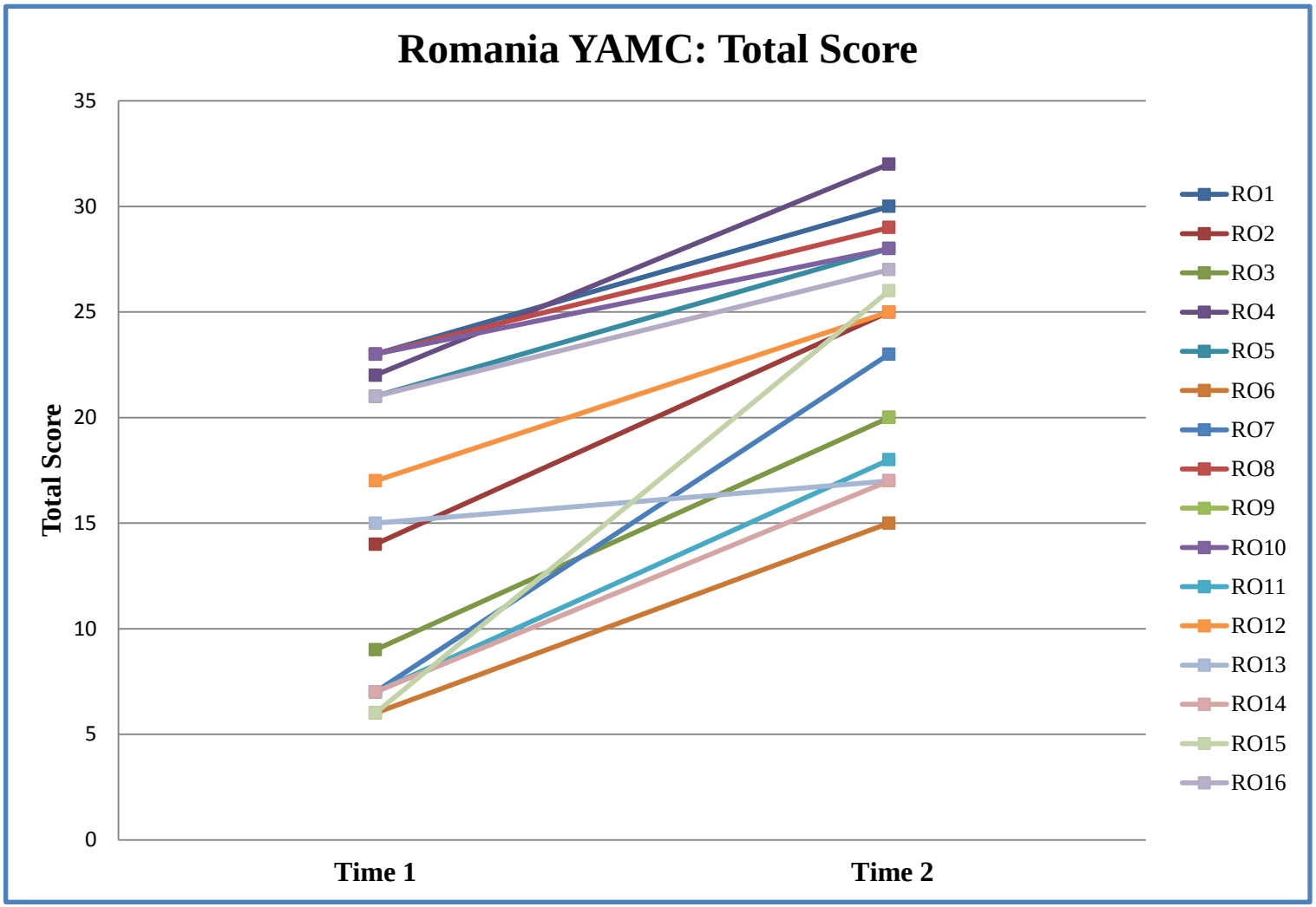
RO7
RO8
RO9
RO10
RO11
RO12
RO13
RO14
RO15
RO16


Romania YAMC: Total Score
Total Score
35
30
25
20
15
10
5
0
Time 1
Time 2
RO1
RO2
RO3
RO4
RO5
RO6
RO7
RO8
RO9
RO10
RO11
RO12
RO13
RO14
RO15
RO16

Perceived Benefits. The Young Athletes Leader, university partner and 14 parents of children in the YA program reported on benefits that the children derived from participating in the program. In general, gains were reported in the areas of motor skills, social skills, cognitive abilities, and adaptive skills. In addition, families reported that they also benefited from the Young Athletes program. Specifically, parents reported connecting with other families of children with disabilities and gaining a better understanding of persons with disabilities. Examples of comments from the Young Athlete leader and families are reported in Table 7 with duplicate remarks removed.

Table 7. Perceived Benefits

Young Athletes Leaders, University Partner	"Improvements can be seen at all levels: motor, social and cognitive. The children learned how to properly move different parts of their bodies, how to use objects, how to incorporate small actions into a bigger process." "Regardless the start level of each child's abilities and regardless the time that she/he needs to learn a new skill, we can say that for those who consistently took part in the trainings, the progress is evident." "Children with significant disabilities improved in basic motor skills like walking styles, stability, manipulation as well as social skills- communication, integration, and friendship." " At first, I did not know how to work really young children with disabilities. So that was a new experience for me and one in which I learned a great deal." "YA provided an excellent opportunity for university students to be exposed to children with disabilities. For almost all of them, it was new experience for them. We also had many class discussions about behaviors of the children and how to best structure the activities to maximize the child gains." " Everyone, parents, grandparents, university students indicated it was a very positive and informative experience for them to see the children and in their own understanding of what children with ID can do. Amazing!" "Many parents and grandparents had never placed their child in a group setting or group activities. At first they were reluctant and perhaps a little skeptical that it would be good for their child. By the end of the second or third week, we all could see differences in the child's ability to listen, participate, socialize with adults and other children, and, of course improve in their motor abilities."

Parents	"Before YA, my child could not jump. Now he jumps!" "In the YA class, my child is more attentive, listens, sees others doing things and does it. He does not do all of this at home!" "She is more sociable and it is easier to involve her in playing with people that are not part of the family; she learned new skills (e.g., catch and throw the ball)" "My child is now more active, and she likes to do sports" "Now I am convinced that my daughter has abilities, she can, but we need to work harder in order to develop new skills." "I noticed that he can do some movements that I didn't realize he can do before this program; I know now that with perseverance, patience and a good method it is possible….for my son to be more cooperative." "She learned new skills (motor and social skills)" "Now I'm convinced that my child can be part of a group. I'm happy because she is able to complete simple tasks, to follow rules." "We met new families, and we now interact more with other parents." "We now have a better understanding of the needs of people with disabilities." "We now have the hope that my child will be part of a group, will become integrated into the community, and will be more flexible at school." "We have learned how to adapt to new situations, and interact with other (children and families)." "I was surprised how much he/she changed in his/her first group experience. We clearly need to do more group activities, which prior to this, I was afraid of."

Results: Kenya

Evaluation Team and Setting

Susan Masila, the director of Special Olympics Kenya, and Jane Wairimu, the university partner from Kenyatta University, led the evaluation of the Young Athletes program in Kenya. Jane Wairimu, along with five graduate students studying physical education and physical therapy comprised the research team and completed the evaluation tasks for the Young Athletes project. The director of SO Kenya identified three Young Athlete Leaders, who led the Young Athletes lessons at the sites: Catherine at Babadogo, Gladys at Christ the King, and Maurice at Little Rock. All of the YA leaders were Special Education teachers.

The YA Leaders and the university partner selected the sites for the YA intervention that represented the three most common settings for young children with disabilities: an early childhood development center (Little Rock), a public school (Baba dogo), and a community based center (Christ the King).

Participants

Before beginning the Young Athletes program, the YA Leaders asked teachers at their respective schools about families who had a young child (3-6 years of age) with an intellectual or developmental disabilities in the community. Once families were identified, the YA Leader from each site went to the homes of identified families to meet with parents. They provided an explanation of the YA program and parents who expressed interest in the program were then asked to confirm that their local physician indicated that their child had been identified as having an intellectual or developmental disability. Upon interviewing families, the YA Leaders identified 18 children who had been given a diagnosis by their physician of IDD (Intellectual or Developmental Disability), 5 of whom also had autism and one who also had cerebral palsy. The results of the MICS and the ABILITIES Index (AI) confirmed that all participants had *mild disability* in the areas of intellectual functioning and *mild to suspected disability* in the areas of social skills, behavioral skills and, communication. In addition, the results from the AI indicated that participants scores varied from normal to suspected disability in the areas of hearing, vision, use of limbs, muscle tone and physical health. Collectively, these results indicate

that participants had ID or DD. At the same time, the results confirmed that all of the children had adequate mobility and the sensory abilities (hearing and vision) to participate in both motor testing and the YA program.

The eighteen children were then selected to participate in YA study if they could meet the following inclusion criteria: (1) observed walking independently, (2) observed following simple directions such as come here or sit down and (3) attend a task or game for 20-30 minutes, as reported by parent. If a child met all three of these criteria, parental consent was obtained to have the child participate in testing prior to and after the YA program. All 18 recruited children met these criteria. Participants included 14 boys and 4 girls, ranging in age from 3.4 to 6.5 from three settings in Nairobi: Baba dogo Public School (n=3), Christ the King Community program (n-5), and Little Rock Early Development Center (n=10).

Procedure

Parents who confirmed they had a child who had a diagnosis of intellectual or developmental disability and, who expressed interest in participating in YA completed a parental consent form. They also completed the MICS and the ABILITIES Index with the YA leader and university partner. Subsequently, the motor abilities of each child were assessed individually by the research partner using the TGMD before and after implementation of YA. The Young Athlete leaders implemented the YA program at the three sites, with the program occurring three times each week for a total of eight weeks.

Results

Fidelity of Implementation. Attendance records indicated that children were present for 90% or more of the Young Athletes lessons. In addition, Young Athlete Leaders at the three sites completed 98% of the YA activities (183 of the 187 activities). Also, reports from the YALL indicate that the YA sessions lasted on average, 32 minutes. Collectively, these 3 measures of child attendance, number of YA activities completed, and duration of YA indicate that the motor intervention program was implemented with a high level of fidelity.

Adaptations. While sites varied in the type of adaptations made, YA leaders across all three sites made similar adaptations. For example, it was common for the delivery of YA to be changed from 3 days a week to 2 days a week to accommodate children and parents who traveled long distances to attend YA. In these instances, 2 YA lessons occurred on one day with a snack and water break between the lessons. Another programmatic change was the expansion of the content in response to the needs of families and children. For example, all programs added an informal parent education component for mothers who were not aware of how to support motor development. Content on hygiene and safety was also added, reinforcing community wide health and safety initiatives. For example, children were taught how to thoroughly wash their hands before and after a snack break and sang closing songs that distinguished private body parts. Other adaptations included, equipment substitutions or additions and disability-related accommodations such as adjusting the level of difficulty of motor activities in response to the individual needs of the children. Adaptations were also made to the YA program to ensure that the YA curriculum was culturally relevant such as including the Kenyan national anthem as the opening song and incorporating more kicking related activities as soccer is a popular sport in Kenya. To understand the kinds of adaptations made, the adaptations were grouped into 5 categories: variation in delivery, expansion of content, cultural adaptation, disability accommodation, equipment addition or substitution. See Table 8 for adaptations.

Table 8. YA Adaptations in Kenya

Types	Examples
Variation in Delivery	- Placed the YA participants into small groups for ease in managing the children - Conducted YA activities both inside and outside - Extended the length of time for YA lessons as they needed more time for children to learn some of the some of motor skills
Expansion of Content	- Added content for families that included family support and informal education about child development and motor milestones - Added hand washing routines at snack break to teach good hygiene - Stressed the importance of nutrition and hydration during snack break
Cultural Adaption	- Included Kenyan National anthem - Included songs teaching children body parts and songs about personal and physical boundaries - Included motor play (more kicking/soccer- related activities) reflective of soccer, locally popular sport
Disability Accommodation	- Added sign language - Adjusted the level of difficulty of motor activity (i.e., distances for throwing) - Adapted the give and go activity to teach children the names of peers - Adapted the throwing activities by including scarves and obstacles - Added more fine motor/hand-eye coordination skills based on child needs
Equipment Substitution or Addition	- Added additional balls of different sizes to match the different ability levels of children - Used a piece of wood and tires for balance beam - Used handkerchiefs for scarves - Used imaginary goals for kicking a ball through the goal

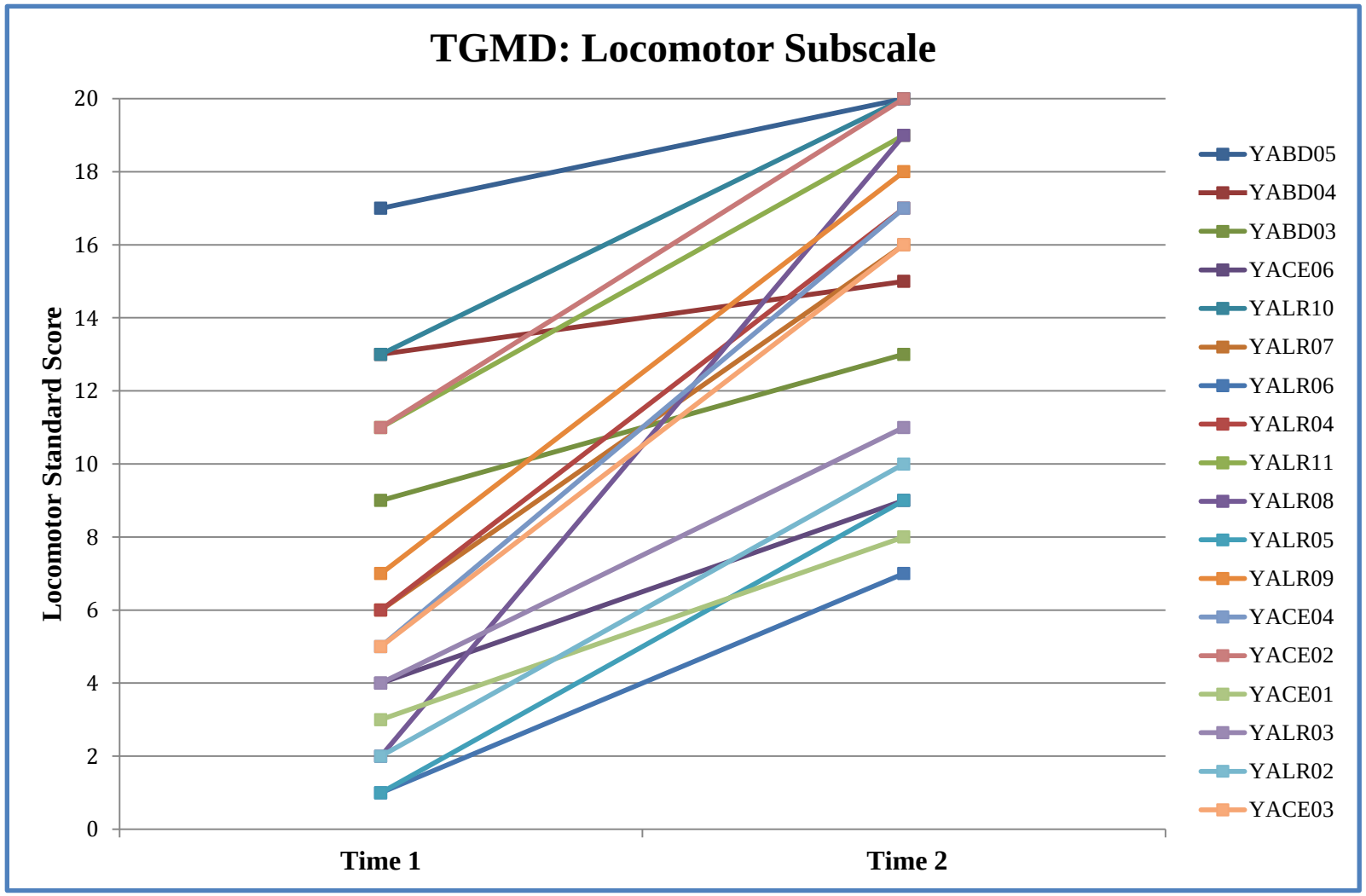
Motor Skill Development. The TGMD raw scores were first converted to standard scores and the standard scores were converted to the Gross Motor Quotient, a composite of the results of the two subtests (locomotion and object manipulation). The Gross Motor Quotient scores at pre and post-YA intervention were examined in relation to what each child should be achieving given his/her age and gender. Before participating in YA, 11 of 18 children (61%) were performing below the norm on gross motor abilities. Specifically, 8 children were performing more than 2 standard deviations below the norm, and 3 children were 1-2 standard deviations below the norm. The other 7 children were within one standard deviation of the norm for their age for their age and gender. After

participating in YA, all children had improved on their motor abilities, performing *above* the mean score or *within* one standard deviation of the mean score (the norm) for their age and gender. Even the 7 children who were within the norm on their pretest motor skills, significantly improved. As a group overall, children improved their motor skills as a function of participation in YA. There was a significant difference from the pre-intervention to post-intervention on the Gross Motor Quotient ($t= 12.44$, $p<.001$). To further explore the differences in the Gross Motor Quotient, the locomotor and object control subtest scores were examined, yielding a significant difference between the pre-intervention and post-intervention on locomotion ($t= 9.23$, $p<.001$) and object manipulation ($t= 12.96$, $p<.001$). Collectively, these results indicate that the children significantly improved in their overall gross motor skills and in both locomotion and object control skills as measured by the TGMD. See Table 9 for mean scores.

Table 9. Means and Standard Deviations of Standard Scores for TGMD subscales

Test of Gross Motor Development	Pre	Post
Locomotor Subscale	6.67 (4.67)	14.67 (4.56)
Object Manipulation Subscale	7.11 (3.71)	15.06 (3.47)

In addition to examining gains on the TGMD, we also examined each child's performance on the YAMC pre and post intervention. Plots of YA participants' pre and post locomotion and object manipulation scores as well as total scores obtained are below.


TGMD: Locomotor Subscale
Locomotor Standard Score
20
18
16
14
12
10
8
6
4
2
0
Time 1
Time 2
YABD05
YABD04
YABD03
YACE06
YALR10
YALR07
YALR06
YALR04
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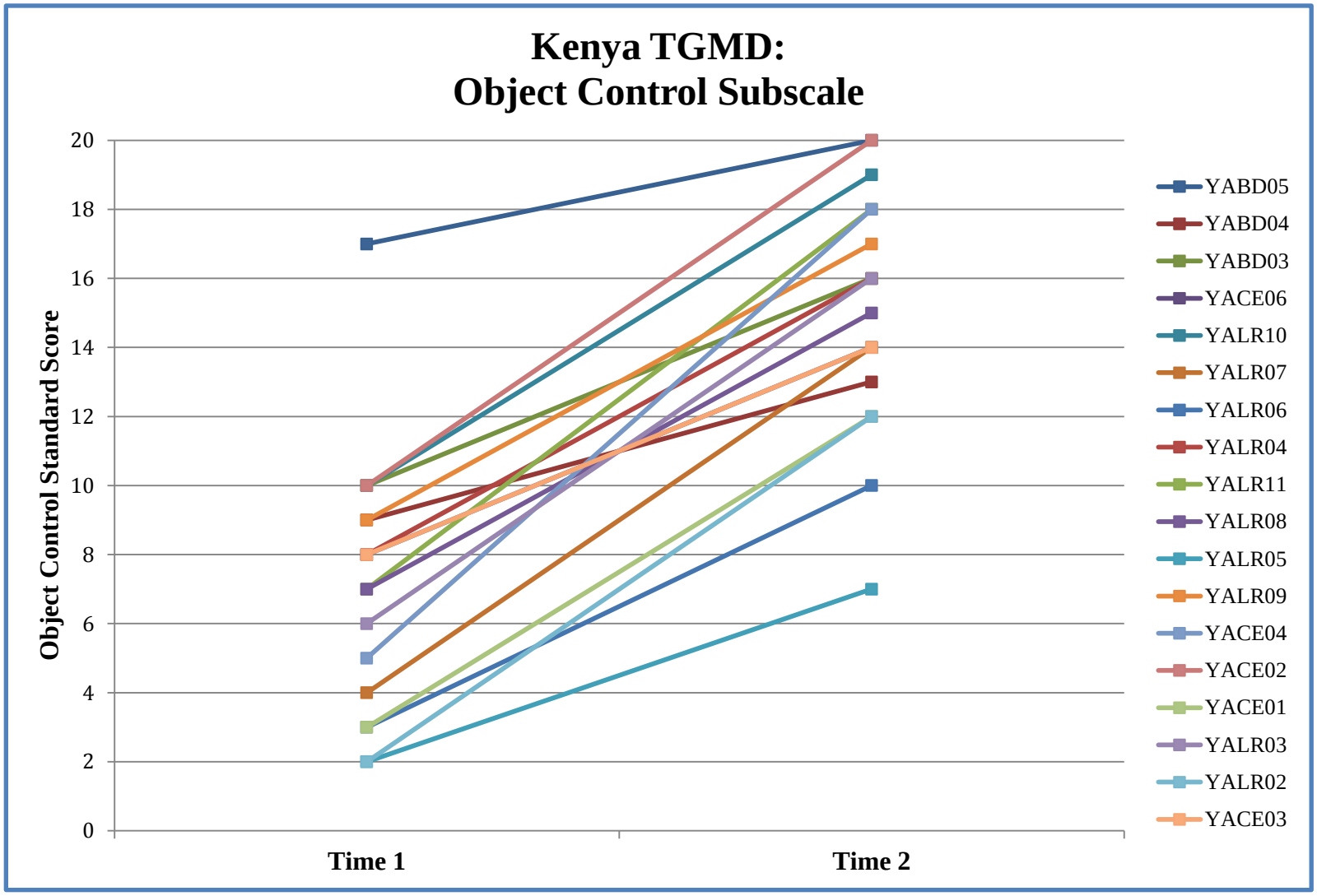
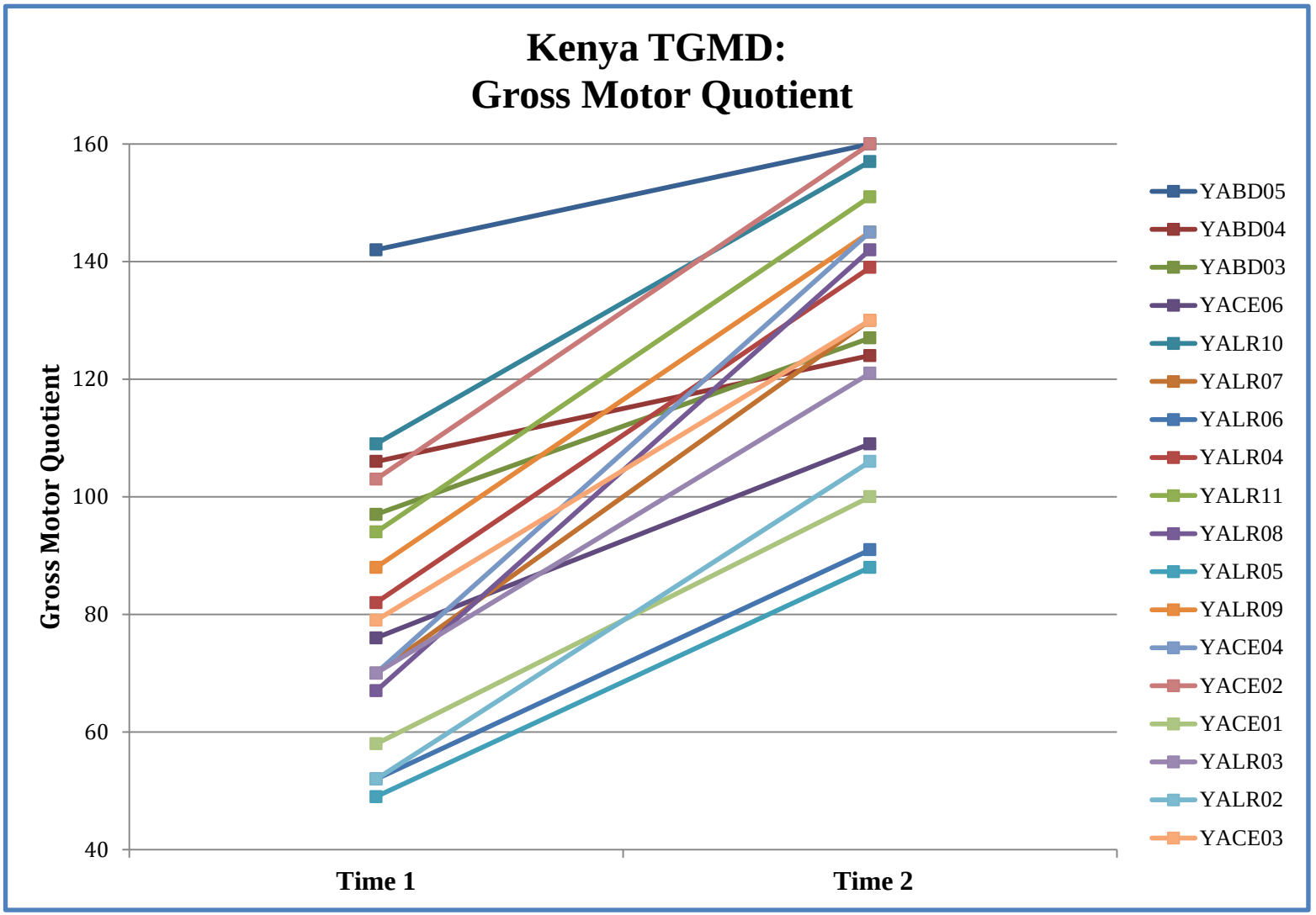
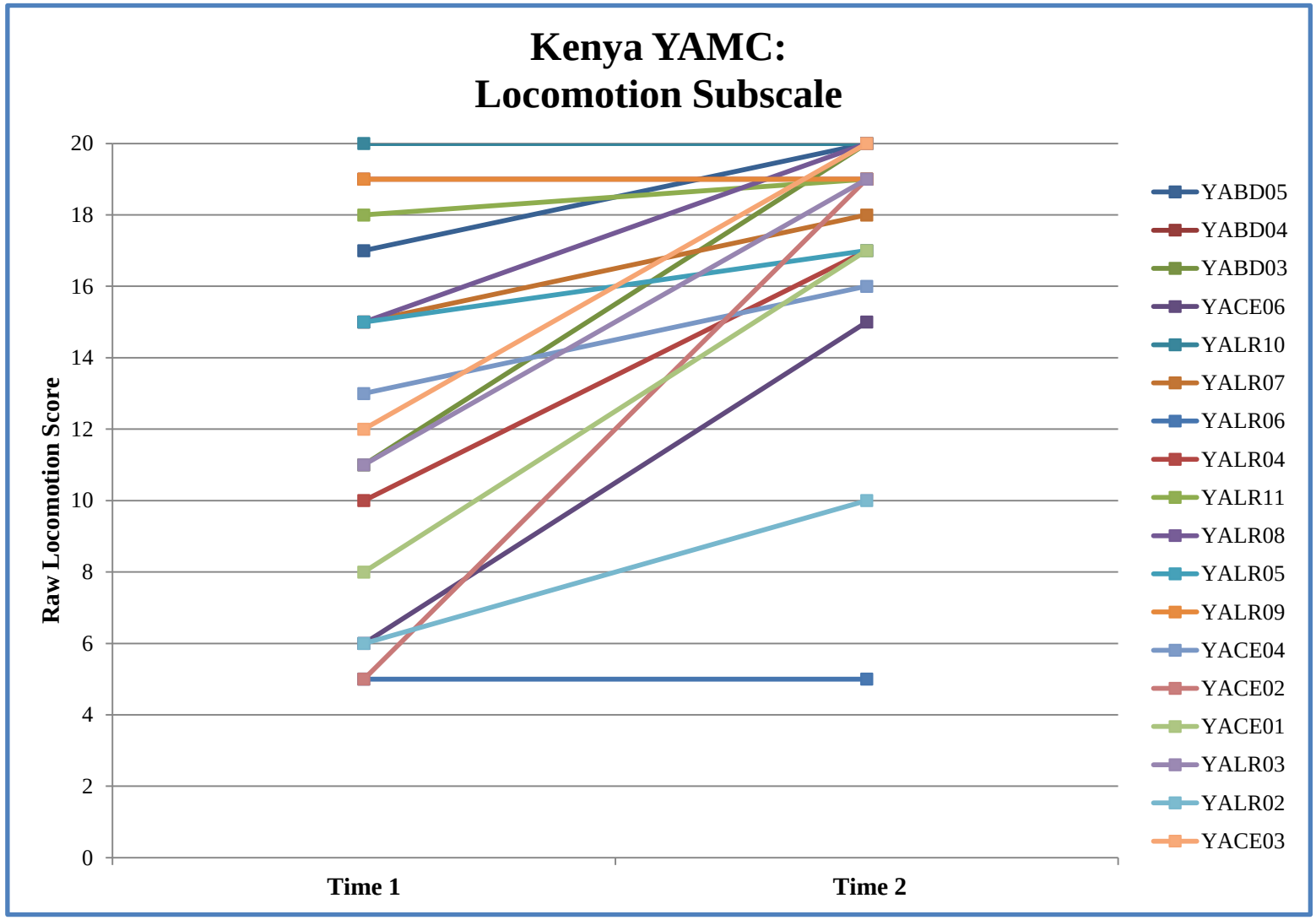
YALR09
YACE04
YACE02
YACE01
YALR03
YALR02
YACE03


Kenya TGMD:
Object Control Subscale
Object Control Standard Score
20
18
16
14
12
10
8
6
4
2
0
Time 1
Time 2
YABD05
YABD04
YABD03
YACE06
YALR10
YALR07
YALR06
YALR04
YALR11
YALR08
YALR05
YALR09
YACE04
YACE02
YACE01
YALR03
YALR02
YACE03


Kenya TGMD:
Gross Motor Quotient
Gross Motor Quotient
160
140
120
100
80
60
40
Time 1
Time 2
YABD05
YABD04
YABD03
YACE06
YALR10
YALR07
YALR06
YALR04
YALR11
YALR08
YALR05
YALR09
YACE04
YACE02
YACE01
YALR03
YALR02
YACE03


Kenya YAMC:
Locomotion Subscale
Raw Locomotion Score
20
18
16
14
12
10
8
6
4
2
0
Time 1
Time 2
YABD05
YABD04
YABD03
YACE06
YALR10
YALR07
YALR06
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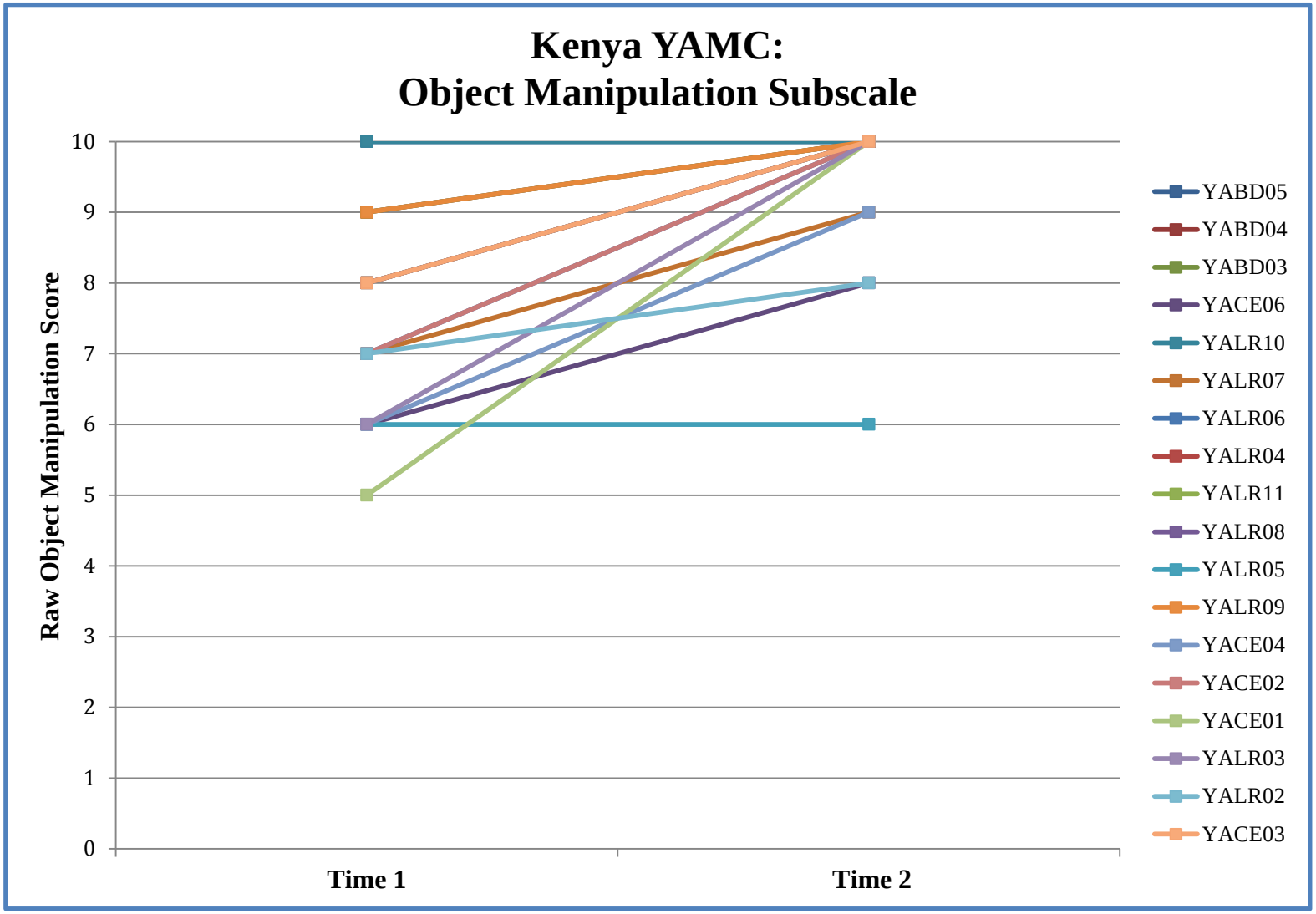
YALR09
YACE04
YACE02
YACE01
YALR03
YALR02
YACE03


Kenya YAMC:
Object Manipulation Subscale
Raw Object Manipulation Score
10
9
8
7
6
5
4
3
2
1
0
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Time 2
YABD05
YABD04
YABD03
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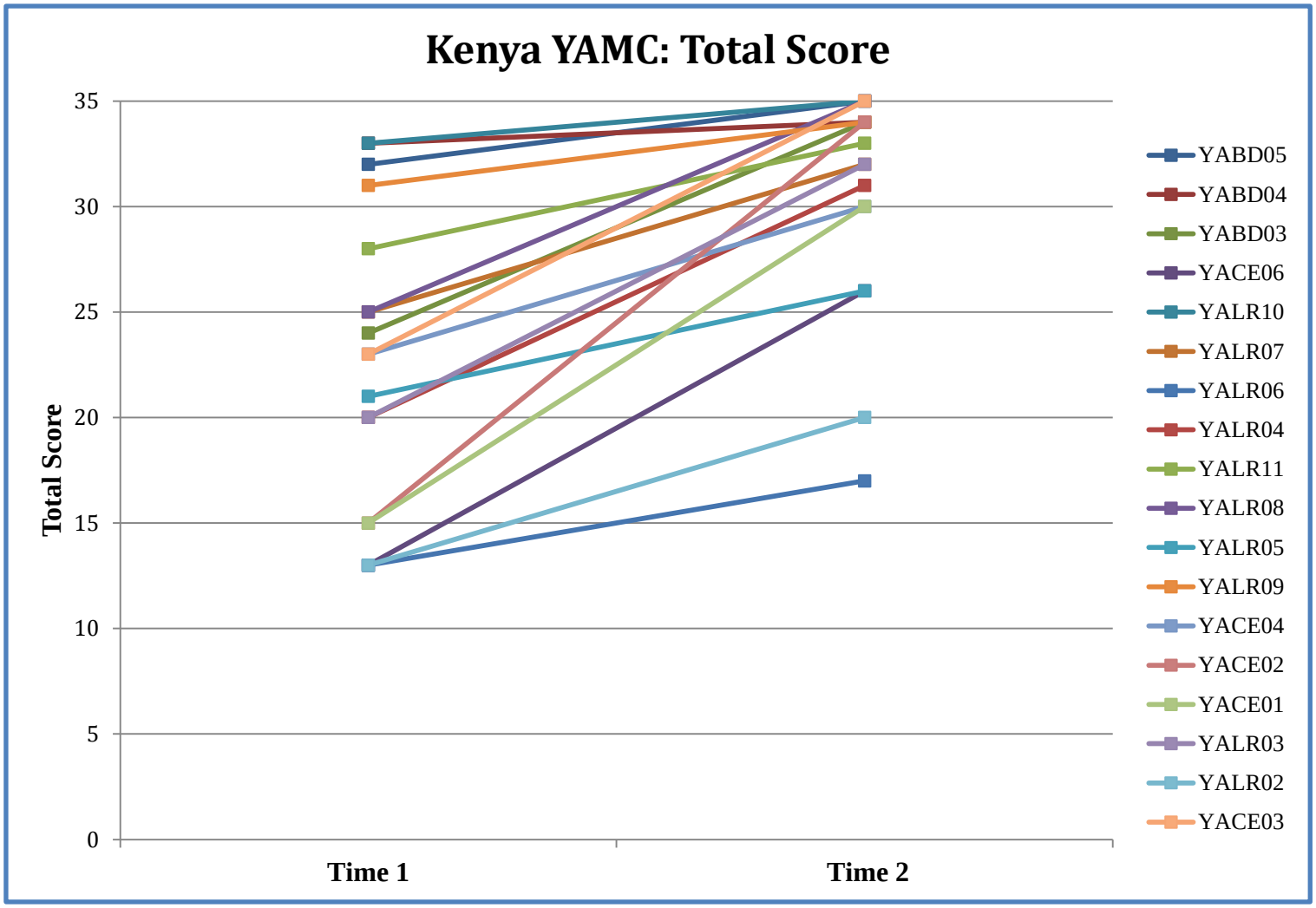
YALR09
YACE04
YACE02
YACE01
YALR03
YALR02
YACE03


Kenya YAMC: Total Score
Total Score
35
30
25
20
15
10
5
0
Time 1
Time 2
YABD05
YABD04
YABD03
YACE06
YALR10
YALR07
YALR06
YALR04
YALR11
YALR08
YALR05
YALR09
YACE04
YACE02
YACE01
YALR03
YALR02
YACE03

Results: Tanzania

Evaluation Team and Setting

The evaluation team for the YA Globalization Project in Tanzania included the following people: the Young Athletes Leader, Julieth Lumala; the Special Olympics Tanzania Director, Frank Macha, and the university partner, Noel Kiunsi, a professor of Sports and Recreation at the University of Dar es Salaam. The site for the implementation of the YA intervention, the school grounds of a local school in the town of Pugu, was selected based on accessibility to parents and researchers. Pugu is a rural village, about 20km outside the capital of Tanzania, Dar es Salaam.

Participants

A total of 15 children participated in the Young Athletes program in Tanzania, 7 children were 3-5 years of age and 8 children were between 6-8 years of age. All 15 children had an intellectual disability, 3 children had dual diagnoses of ID and autism and 4 children had a dual diagnosis of ID and deaf. Conversations were held with each parent asking about the specific nature of the child's disability and who provided the diagnosis to the family. Parents indicated that the physician gave a disability diagnosis to them at the birth of their child or shortly after birth. Prior to beginning the Young Athletes program, the evaluation team administered the MICS and the ABILITIES Index with input from parents. Table 10 displays mean ratings in each area assessed by the ABILITIES Index. In general, children fell within the *suspected disability* range for audition, limbs, tonicity, and vision. In addition, children were *suspected to mildly impaired* in in the area of physical health, *mildly impaired* in their behavior and social skills, and *moderately impaired* in their intellectual functioning and intentional communication.

Table 10. Mean Ratings on the ABILITIES Index

Audition	Behavior and Social Skills	Intellectual Functioning	Limbs	Intentional Communication	Tonicity	Integrity of Physical Health	Eyes	Structural Status
1.93	3.27	4.1	1.3	3.8	1.87	2.13	1.33	2.07

Of these participants, 10 (66%) were boys, and the age of participants ranged from 3.6 to 8 years old. All 15 children were included in data collection. Inclusion criteria for data collection included: (1) parental consent for participation, (2) the ability to walk independently, (3) the ability to follow simple directions, and (4) the ability to attend to motor tasks during testing.

Procedure

After the site was selected, the Young Athletes leader recruited children to participate in the program. The YA leader recruited children by going to schools in the Pugu area, and asking parents and teachers to identify children in the villages who had an intellectual disability and were between the ages of 3-7. The YA leaders then contacted families of these children with ID and asked for their consent to participate in the project.

Prior to the implementation of the Young Athletes program, the evaluation team (the university partner with the help of 2-3 assistants) tested each child using the YAMC. Children were tested one-on-one and testing took approximately 20-30 minutes per child. Immediately after the conclusion of the Young Athletes program the YAMC was again administered by the evaluation team.

Results

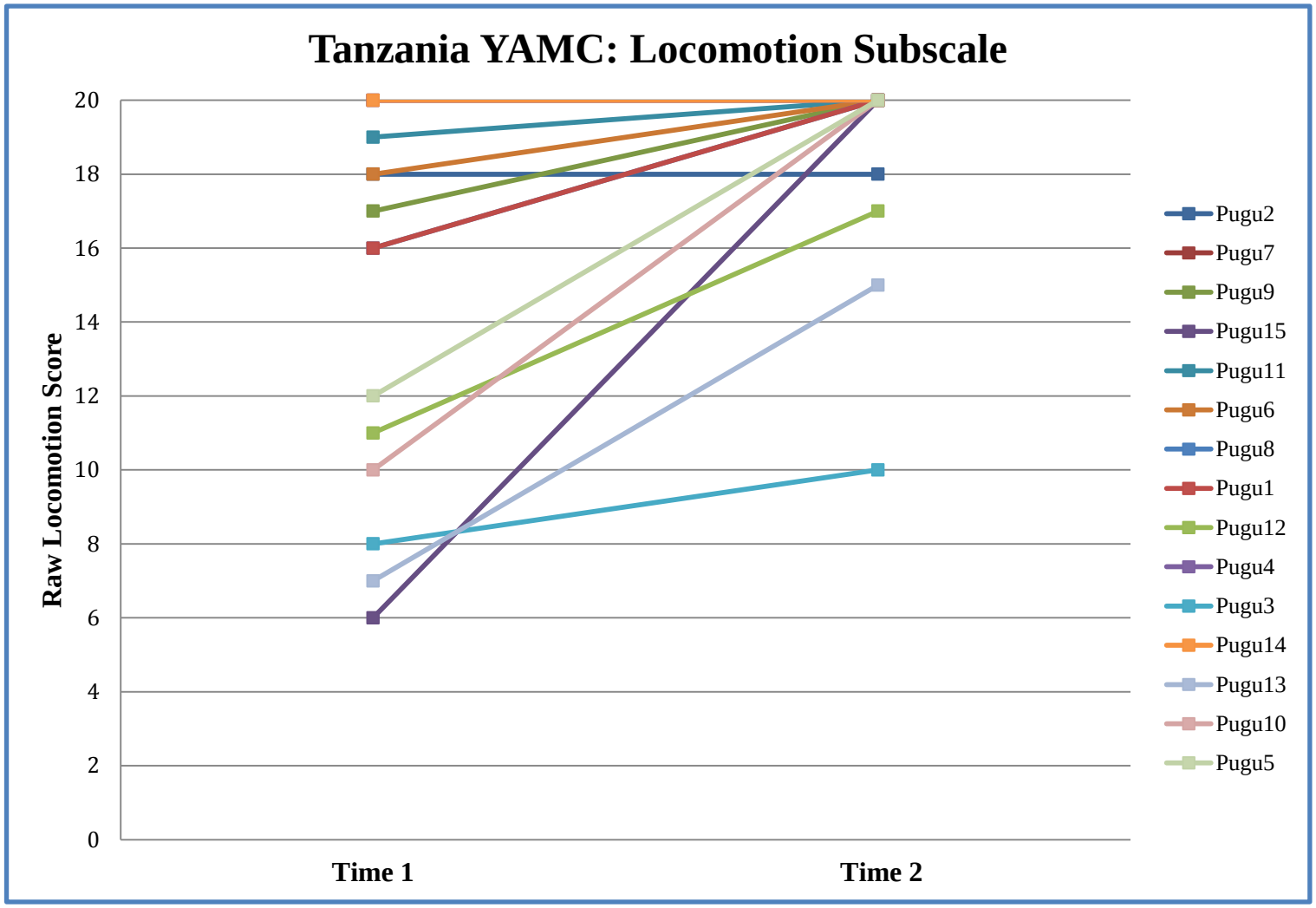
Fidelity of Implementation. Attendance records indicated that, on average, children were present for 90% of the Young Athlete lessons. The Young Athletes leader completed the *Young Athletes Leader Log* to indicate which YA activities were completed during each lesson. Results from the YALL indicate that the YA Leader carried out the program two times each week for a total of 8 weeks, combining 30- minute lessons into longer sessions. The average YA session lasted approximately 90 minutes, using 2-3 lessons per session. These results indicate that the Young Athletes leader completed all of the YA activities with high fidelity to the program.

Adaptations. In addition to adaptations to the duration and frequency of the YA program, YA leaders in Tanzania also adapted the equipment and the activities based on the culture, available equipment, and needs of the children. For example, the scarves were made of weighted tissue paper, the poly dots were made from heavy paper, the balance beam was a board covered with soft material.

Additionally, during the lessons, children completed the activities in small groups with assistants providing individual support to children who were having difficulty with the activities.

Motor Skill Development. The YAMC was used to examine the motor development of the children before and after participation in YA. Each child's score on the locomotion and object manipulation subscales as well as the total score obtained.

From the plots below, it is clear that the majority of children improved in their motor ability as assessed by the YAMC. However, it is clear to see that the ceiling of the YAMC was met by many at post-test and some at pre-test, indicating the need for an upward extension of items on the YAMC. Two possible explanations for this are that the wide range of abilities of the children who were tested and/or the wide range in the age of the participating children. The YAMC was developed for use with children 3-5 years of age. The children from Tanzania included children 6-8 years of age and children who had higher levels of motor abilities. The TGMD was not administered by the Tanzania Evaluation team.


Tanzania YAMC: Locomotion Subscale
Raw Locomotion Score
20
18
16
14
12
10
8
6
4
2
0
Time 1
Time 2
Pugu2
Pugu7
Pugu9
Pugu15
Pugu11
Pugu6
Pugu8
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Pugu12
Pugu4
Pugu3
Pugu14
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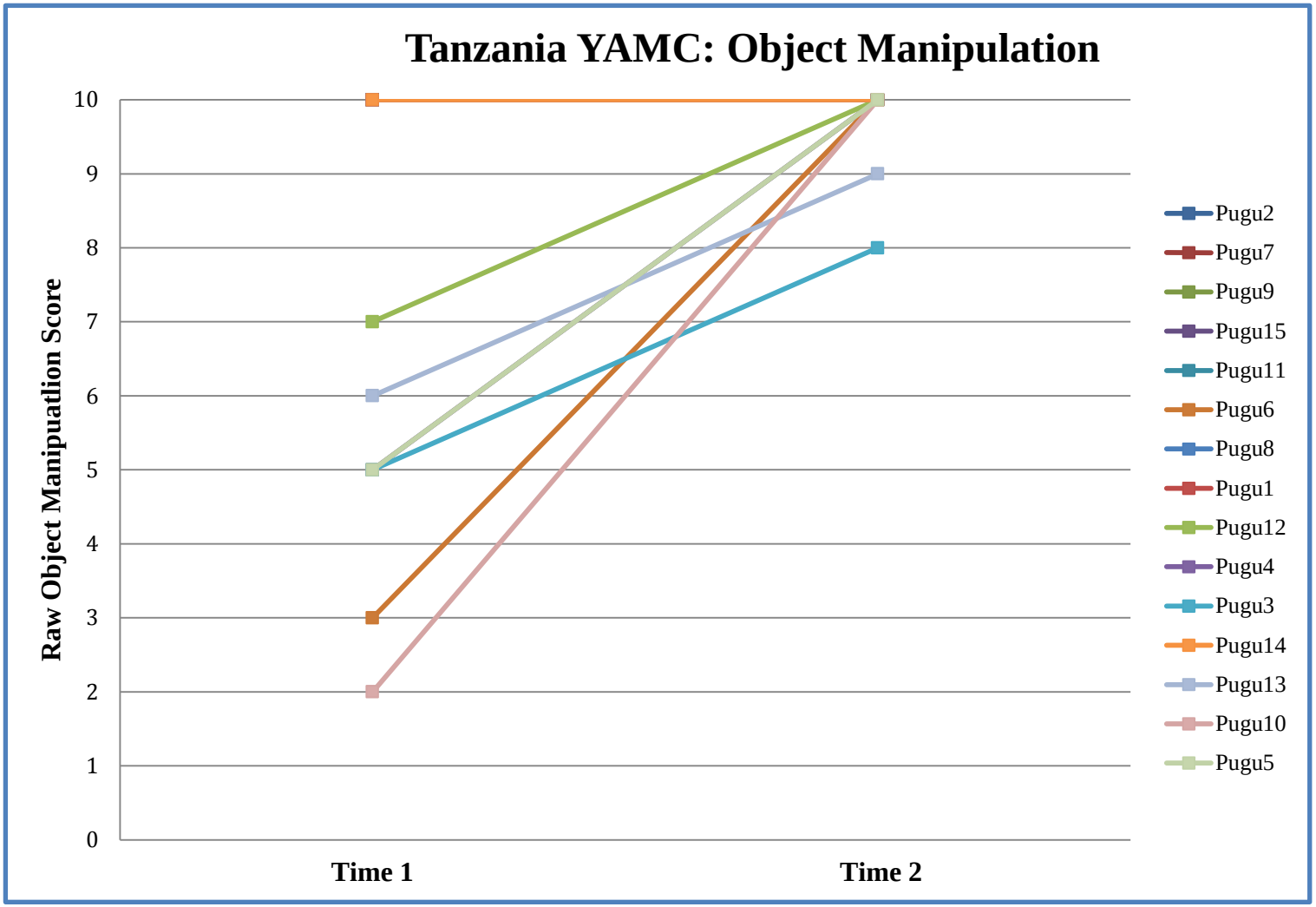
Pugu10
Pugu5


Tanzania YAMC: Object Manipulation
Raw Object Manipuatlion Score
10
9
8
7
6
5
4
3
2
1
0
Time 1
Time 2
Pugu2
Pugu7
Pugu9
Pugu15
Pugu11
Pugu6
Pugu8
Pugu1
Pugu12
Pugu4
Pugu3
Pugu14
Pugu13
Pugu10
Pugu5

Perceived Benefits. Both the Young Athletes leader and 3 parents of children in the YA program reported on benefits that the children derived from participating in the program. In general, gains were reported in the areas of motor skills, social skills, cognitive abilities, and adaptive skills.

Furthermore, families reported that, not only did their child benefit from the Young Athletes program, but they benefited as well. Specifically, parents reported connecting with other families of children with disabilities and gaining a better understanding of persons with disabilities. Examples of comments from the Young Athlete leader and families are reported in Table 11.

Table 11. Perceived Benefits

Young Athletes Leader	"The impact of YA was tremendous to the children and families. It very much improved the motor skills for the children, made friends with other children and families they didn't know before. The children are very eager to join school." "The kids look totally different from day one." "Sophia has changed dramatically. She no longer runs around and is troublesome. She listens and joins in." "Parents have gone out of their way and bought a ball to play with their child at home." "Many parents say they are now playing with their child and that their child knows how to play." "The families feel relieved after learning that having a child with ID is not a personal issue/problem but it is common in the community. More over the families made friends among each other and have started to cooperate."
Parents	"We have seen that now Lukas likes school more. He is less ashamed of himself." "He can express himself better when he wants something!" "Now he likes to exercise more and play football."

	“Now, he can attend church, and he likes to greet elder people.” “The family has benefited by seeing that he can depend on himself and he likes to be involved in house work.” “He is less hyperactive.” “Through YA, our family has benefited by having more knowledge about people with intellectual disability and how to live with them. We now know that we need to give him more freedom to participate in social activities in the community.”

Results: Venezuela

Evaluation Team and Setting

The evaluation team for the Young Athletes Globalization Project included the following people: the Young Athletes Leaders, Karelia Alvarado, Rossana Velasquez, and Margarita Valera; the SO Venezuela Director, Domenico Carnevali and, the University Partners: Olivia O'Donnell and Hector Morante. Three sites were selected for the implementation of the YA intervention: a) a special school for children with disabilities in Colonia Tovar, a town about 30 miles from the capital of Venezuela, Caracas; b) a special school in Libertador, a municipality in the north of Venezuela and c) a special public school in Caracas. These sites were selected by the evaluation team to ensure that children with ID could be recruited for the program.

Participants

A total of 33 children participated in the Young Athletes program, and all of these children had some level of developmental delay. As reported by parents, 16 children had an intellectual or developmental disability, 15 children had autism, one child had a motor impairment, and one child had a communication impairment. Of these participants, 22 (66%) were boys, and the age of participants ranged from 3.7 to 12.8 years (2 children were between 3-5 years of age and 9 children were 6 and older. The inclusion criteria for data collection included: (1) parental consent for participation, (2) the ability to walk independently, (3) the ability to follow simple directions, and (4) the ability to attend to motor tasks during testing. Table 12 displays mean ratings in each area assessed by the ABILITIES Index. In general, children fell within the normal to suspected disability range for audition, limbs, tonicity, vision, integrity of physical health, and structural status. Children were mildly to moderately impaired in their behavior and social skills and intentional communication and moderately impaired in their intellectual functioning.

Table 12. Mean Ratings on the ABILITIES Index

Audition	Behavior and Social Skills	Intellectual Functioning	Limbs	Intentional Communication	Tonicity	Integrity of Physical Health	Eyes	Structural Status
1.18	3.2	4.18	1.0	3.5	1.23	1.64	1.18	1.0

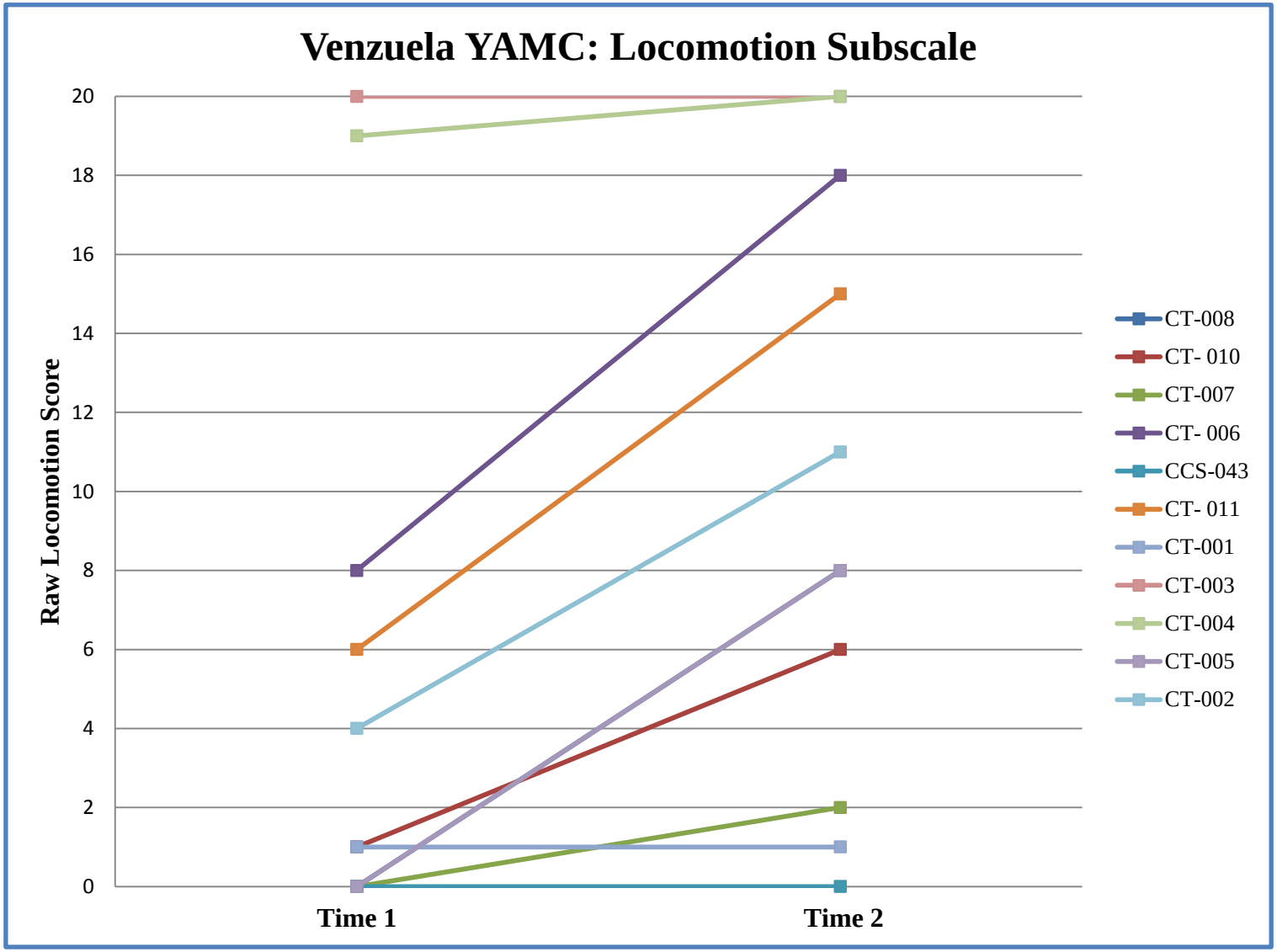
Procedure

Prior to beginning the Young Athletes program, the evaluation team administered the identifying instruments (the MICS and ABILITIES), with input from teachers at each school and parents, when possible. Additionally, the evaluation team (the university partner with the help of 2-3 assistants) tested each child using the YAMC. Children were tested one-on-one and testing took approximately 20-30 minutes per child. The Young Athlete Leaders implemented the 8-week Young Athletes program 2 days a week at three sites. Attendance and the YA Leader Log (YALL) was completed after each lesson by the Young Athlete Leader, and the observation checklist was completed by the university partner at least once a week. Immediately after the conclusion of the Young Athletes program the evaluation team administered the YAMC.

Results

Fidelity of Implementation. The results from the YALL indicate that the Young Athletes leaders completed between 87% and 100% of the YA activities, adapting the equipment and the activities based on the culture, available equipment, and needs of the children. Additionally, reports from the YALL indicate that the program took place twice a week and the average YA session lasted 47 minutes at one site, 90 minutes at another site, and 40 minutes at the third site. During the lessons, children completed the activities in groups, with assistants of the YA leader aiding children who were having difficulty with the activities. The observation checklists completed by the research partner confirmed the YA leaders' reports.

Motor Skill Development: YAMC. We examined each child's performance on the YAMC pre and post intervention and plotted each child's score on the locomotion and object manipulation subscales as well as the total score obtained. Additionally, the range of gains and the mean gains are also listed for each subscale. From these YAMC plots (below), it is clear that the majority of children improved in their motor ability as assessed by the YAMC. The Evaluation Team did not administer the TGMD.


Venzuela YAMC: Locomotion Subscale
Raw Locomotion Score
20
18
16
14
12
10
8
6
4
2
0
Time 1
Time 2
CT-008
CT- 010
CT-007
CT- 006
CCS-043
CT- 011
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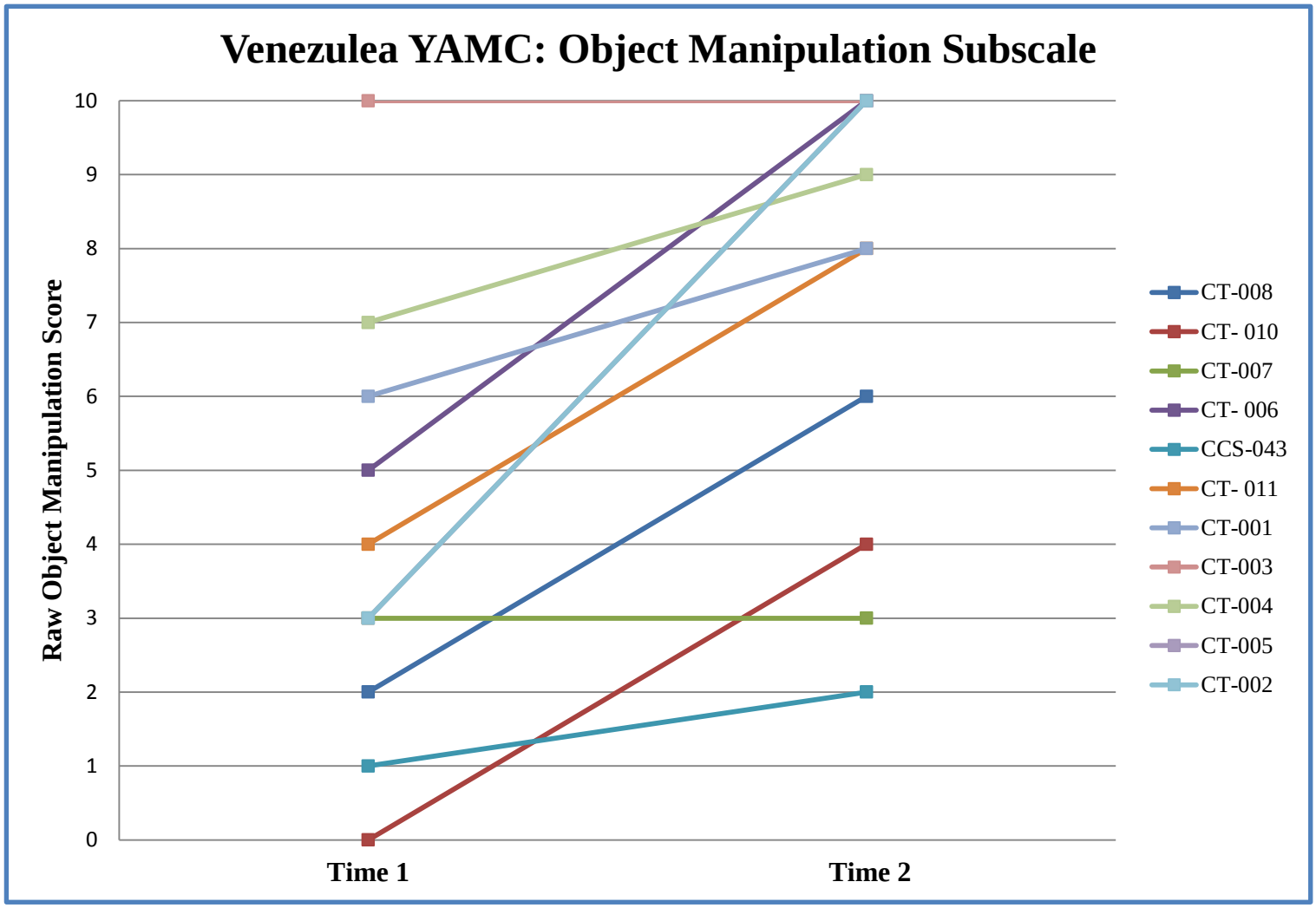
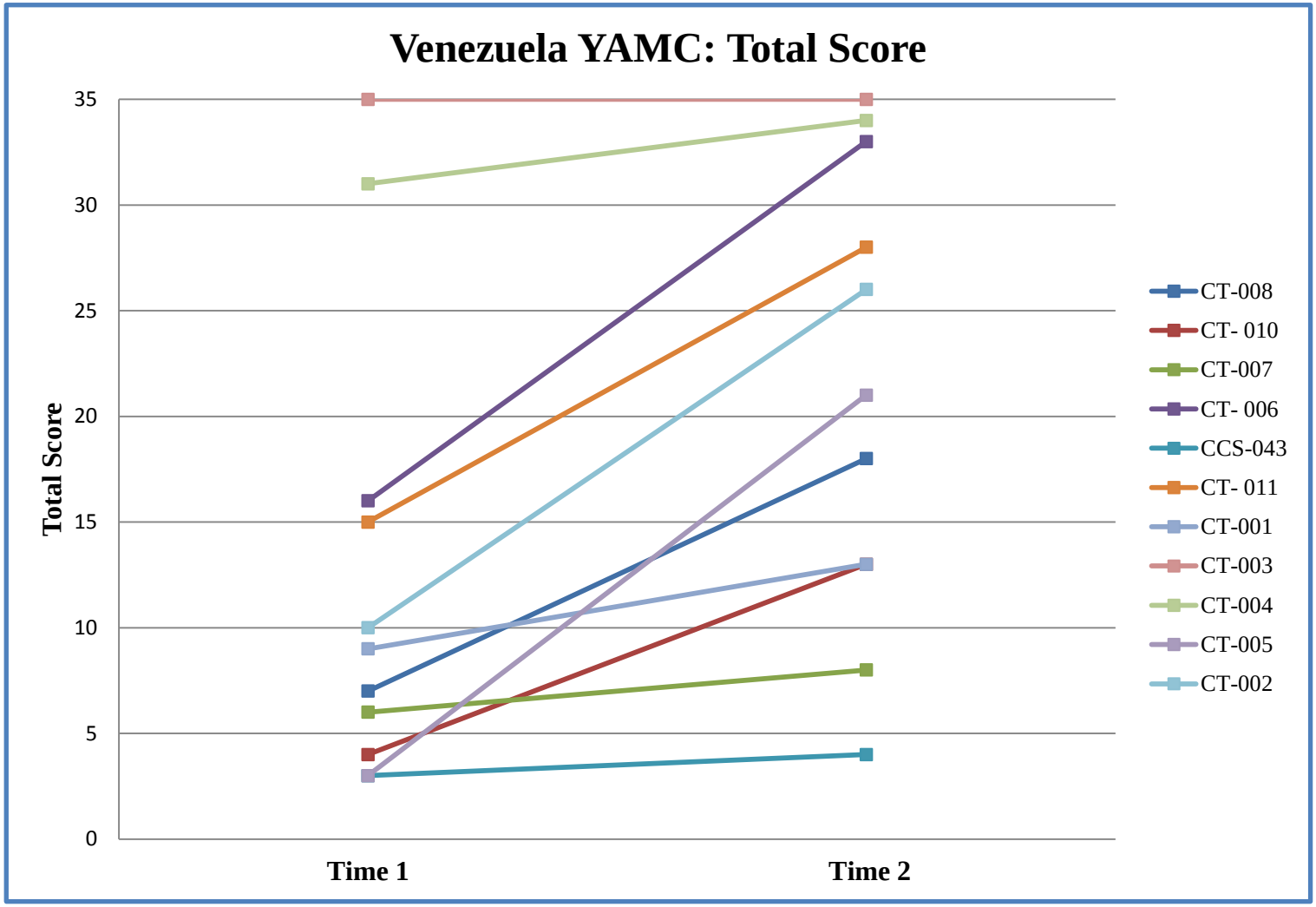
CT-003
CT-004
CT-005
CT-002


Venezulea YAMC: Object Manipulation Subscale
Raw Object Manipulation Score
10
9
8
7
6
5
4
3
2
1
0
Time 1
Time 2
CT-008
CT- 010
CT-007
CT- 006
CCS-043
CT- 011
CT-001
CT-003
CT-004
CT-005
CT-002



Perceived Benefits. The Young Athletes leader reported on benefits that the children derived from participating in the program. In general, gains were reported in the areas of motor skills, social skills, cognitive abilities, and adaptive skills. Examples of comments from the Young Athlete leader are reported in Table 13.

Table 13. Perceived Benefits

Young Athletes Leader	"C.M had trouble jumping over the obstacles, doing it almost walking but now he is able to jump alternating without help." "In school we see how N goes up the stairs without help although it is hard for him coming down and does it with help" "L. M could not follow the sequence of activities when it started, now is able to for the majority of the activities." "N. J. could not catch a ball when we started and now she can. She could not wipe her dripping saliva when we started but now she can. " "S. M. could not concentrate and follow directions and now she can." "L. N. has acquired leadership skills to the extent of guiding the others to put on their YA T shirts before starting activities."

Results: Malawi

Evaluation Team and Setting

The evaluation team for the Young Athletes Globalization Project included the following people: the Young Athletes Leaders, Felix Chisowa, Mark Tembo, Margaret Wazakili.

Participants

The YA participants included children (5 girls, 20 boys) between the ages of 3-7. The distribution of the age was as follows: 3 year olds (n=3), 4 year olds (n=6), 5 year olds (n=3), 6 year olds (n=10) and 7 year olds (n=3).

Procedures/Results

While the Young Athletes program was implemented in Malawi, we are not able to comment on the impact of YA at this time. Pre and post test data was collected on children's motor abilities using the TGMD. However, due to technical difficulties, information obtained from the administration of motor skills assessments is not reliable. Thus, we chose not to carry out the statistical analyses on this data that we did for other countries.

Discussion

Similar to the findings in the US (Favazza et al., 2013) children who participated in the Young Athletes Globalization Project made substantial gains in motor skill development. While this study did not employ a true experimental design (i.e., absence of a control group), the changes in motor development that were observed over the 8-week period were significant. The results of this study demonstrate that children with developmental disabilities can improve motor skills in a relatively short span of time. This has particular importance in countries where there persists widespread stigma and belief that children with developmental disabilities cannot learn or develop new skills.

As YA expands to other developing countries, it is notable that the program is adaptable for use in countries that lack early motor programming. As expected, adaptations were made in response to the individual needs and culture of the children and families. In addition, content was added seamlessly to the YA program, connecting the motor intervention to community wide initiatives such as families' needs for informal education, support, and leadership training as well as hygiene and safety initiatives for children.

While the findings from this study are promising and will add to the documented benefits associated with early motor programming on children's development (National Center for Physical Development and Outdoor Play 2010; Trawick-Smith, 2010), more needs to be done in light of the lack of early childhood programs for young children with developmental disabilities in low and middle-income (LAMI) countries. Significant and sustainable improvement in motor development cannot rest alone on an 8- week motor intervention. Preschool motor programs should be viewed as just one of the many strategies needed to engage young children with developmental disabilities in learning and physical activities (Brown, Pfeiffer, McIver, Dowda, Addy & Pate, 2009; Riethmuller, Jones & Okely, 2009). Moreover, change in parent and community expectations about the abilities of children with developmental disabilities will require sustained involvement of families and community members in both physical activities and early childhood programs. Currently, leaders from impoverished countries are actively seeking effective early childhood programs for children with developmental disabilities to counter the negative impact of poverty on development, and as a solution to the stigma and isolation young children with developmental disabilities often face (Britto, Yoshikawa & Boller, 2011). The *Young Athletes* program is one

such early childhood program that positively impacts motor development in young children with disabilities in this global context. Recommendations for next steps provide a road map of taking the Young Athletes program to the next level in the global context.

Recommendations

I. Development

A. Integrate the Adaptations into YA Curriculum

We anticipated (and found) several useful adaptations to the YA Curriculum. At the same time, we found that in many instances, those who implemented YA could benefit from suggestions as to how to adapt YA and respond to differential needs of children and families. In addition, we found that when YA materials are packaged separately, the inclination might be to not utilize all of the tools. For these reasons, it is imperative that the adaptations for the YA Curriculum be integrated into the existing materials as opposed to creating a separately packaged tool. The integration of the adaptations are underway and should be complete by summer of 2015.

B. Revise and Re-Pilot the Young Athletes Motor Checklist

It was clear at the onset of the YA Globalization Project that there was a lack of tools for measuring motor gains in the participating countries. This is consistent with the literature indicating that resource poor countries often do not have tools needed to properly assess and gauge the developmental levels of children. In addition, for the YA program, the YA leaders may very often be parents, university students or volunteers. For these reasons, it was necessary to develop a measurement tool that directly corresponds to the YA Curriculum. The Young Athlete Motor Checklist (YAMC) was developed and underwent first-round pilot testing. Every site that used it experienced similar issues indicating the instrument needs to undergo further development, which would entail an upward and downward extension of items. While we asked that countries only include children ages 3-5 in the data collection portion of the project, children who were much older and younger were included because they often lacked any access to programs designed for them. In addition, the range of abilities was much broader that anticipated. For both of these reasons, the YAMC needs to be revised and re-piloted to accommodate programs in developing countries that are most in need of such a tool. See Table on YAMC Feedback (next page).

Feedback about the YAMC	
Kenya	*Materials* • No difficulties in finding materials needed to test the children • Additional materials they needed for testing= skipping ropes (confusion about skipping item) • Only material they adapted was the rod for the hurdles- held rod instead of using rope so that the children would not trip over the hurdle • Materials were easy to use and familiar to the children *Directions* • Directions were clear and understandable • Had to repeat directions to some children many times *Administration* • Children preferred object manipulation items over locomotion and stationary items • Did not test one child at a time; tested one skill at a time (each child would perform the skill) o Each teacher tried to work with a child • Tested the TGMD on the first day and the YAMC the next day • Testing took a long time (about 6 hours) • Difficult items to test include: skipping, sliding, jump/leap o Jump (the second distance was harder) o To keep the children involved, they made them jump for an object and stand on toes for an object o Confusion over skipping item (misinterpreted as skipping rope) • They did not score YAMC *Suggestions:* • Suggestions for altering progress monitoring chart: they want to complete the Progress Monitoring Chart daily as opposed to weekly; it will increase accuracy (complete for unit 1 lesson 1, unit 1 lesson 2, unit 1 lesson 3) in terms of assessing where each child is at in motor skill development • We need to expressly state that for overlapping items (in the TGMD and YAMC), they can complete these skills at the same time; this will save a good chunk of time in assessment of motor skills • They like the YAMC because it shows the numerous skills that the child possesses and parents were able to witness all that their child was able to do • Include pictures of each skill to be assessed in the YAMC • Make the stationary and locomotion subscale items more engaging to the children (for instance, for the stand on tiptoes items, they made the children more motivated by asking them to reach for an object)

Tanzania	*Materials*
	• No difficulty finding materials and they did not need any additional materials
	• Materials were familiar to the children
	Directions
	• Instructions were clear to the testers
	• Instructions were clear to the children because the testers demonstrated each activity
	Administration
	• Spent the whole day pretesting
	  o Started at 10:30am and concluded at 5pm (had several breaks including lunch for the children and parents)
	  o Testers included: Frank, Noel, and YA leaders/teachers
	  ▪ This was the first time Noel administered a motor assessment
	  ▪ This was the first time Frank administered such a detailed assessment
	• Tested 1 exercise at a time and each child would do the skill (each child worked with a teacher)
	  o Did not test each child individually
	  o Tested the children outside
	  o There was a bit of wait time since they did one exercise at a time
	• Items that did not translate include the skipping and gallop items:
	  o Skipping item- they interpreted as a hop and pause
	  o For the gallop item, they jumped like a frog
	  o However, Noel stated that these items are tested as part of assessments at his university; thus, it seems like these items are appropriate; training or pictorial representations of these items might be necessary
	• They scored the YAMC, and they had no difficulties in doing so
	• The Object Manipulation section went faster and was more enjoyable to the children than the Stationary and Locomotion sections
	Suggestions
	• Skills that we did not test that should be included (considering their culture) include:
	  o Throw and catch (throw ball up to self)
	  o Dancing
	  o Train (each child holds on to child's shirt in front of him/her and runs)
	  o Dribble ball
	  o Drop ball and catch
	• Additional suggestions:
	  o Have a training for the YAMC

	○ Include more challenging items
Romania	*Materials* • All materials were easy to use. • However, children who were younger and older than 3-5 were included ○ It was difficult for the very young children *Directions* • All directions were easy to follow • All items were culturally relevant *Administration* • The YAMC was very easy to administer especially compared to the TGMD. ○ The TGMD was too difficult for the children (most children have severe disabilities; most items on the TGMD were too difficult). • On the other hand, the YAMC was more appropriate, perfect for use prior to YA. • The only item they found difficult was gallop. But this is even difficult for children who are typically developing. • They had some children who have muscle stiffness, tremors and therefore have difficulty with motor tests. • The length of testing for the YAMC was approximately 20-30 minutes and another 20-30 minutes for the TGMD. However this was dependent on the cooperation of the child. • Often the test was administered with 2 adults for each child. *Suggestions:* • Develop more items upward and downward (adding items on the lower and upper end of the scale). • They had some children who were lower functioning and some who were higher functioning. They need additional items to ensure that they can show change for all children. • They also suggested adding pictures and PECS for the items on the YAMC.
Venezuela	*Materials* • The ABILITIES Index was easy because they had people with OT, PT, Special Education, child development background from universities helping evaluate children • The TGMD was very difficult • The YAMC was easier, but the YAMC needs photos or video, to make it easier for the average person who does not have a background in motor development to give the test *Directions*

	• The directions were very easy. *Administration* • They had Olivia (the lead University Partner), her husband, an OT, PT, YA Leader, SO Director, 3 or 4 university students, and all parents assist with assessments. While some of these individuals had given tests to children before, SO had never done this extensive testing. o It was new for them and they need help structuring testing. • While the YA program is well structured and in a good setting, the testing needs to be better structured and in a better setting. • All children were tested one at a time but they were all together in a very small room. Thus, some had to wait and got bored and perhaps did not give their best effort when it was their turn to be tested. Other children were distracted by the presence of others during testing. All of the adults were very prepared. *Suggestions for Improvement:* • Need more items (upward and downward extension) • Items need video or photographs • Need directions about how to administer tests (structure space; test one child at a time, while others play in another separate space).

C. Expand the YA Curriculum into a Longer Program

As in the US study of YA, programs leaders and university partners indicated that children and families could have benefitted from a longer program (12-14 weeks). It is recommended that the existing 8-week program for preschool-age children (ages 3-5) be expanded to 12 week.

D. Define the Young Athletes Program

Because there are different models of YA, if SO continues to support 4 four models, each model needs to be defined with parameters that distinguish one model from another. Without this distinction made, it becomes difficult obtain true numbers of children and families who participate in a one day demonstration versus an 8- week program.

E. Re-Conceptualize Young Athletes

The use of a sports conceptualization of YA may lead to the creation of sports teams and competition, which might be viewed as inconsistent with developmentally appropriate practices for very young children. *Children at this very young age often do not play in concert with one another (as is seen on teams). Rather, they play alongside their peers, not in competition with them, not on teams with them*. If we consider Clark's hierarchy of motor development (Figure 1), the notion of teaching *context specific sports and team sports* is higher on the continuum, when children can understand terms such as team and abstract concepts such as points and game rules. While the ages are flexible on this continuum, it is notable that sports specific activities are on the upper age range of the YA program. The use of activities and terms that reflect competition and teams may be misunderstood or confusing, as it is not consistent with common practices and state/national guidelines for physical activities for young children between the -configure of 3-5. However, if the YA program were closely aligned to National and/or State Standards for Early Childhood and the indices of high quality activities physical activities to support motor development, the use of sports, teams or competition is not found. (See the Appendix A for sample of commonly accepted benchmarks for young children and Appendix B for the NAPSE guidelines for young children). These exemplary standard have similar emphasis on physical activities for young children in the context of *cooperative games and motor play* to support social/emotional, motor, cognitive, language development.

F. Re-configure the Young Athletes Program

If the Young Athletes program is re-conceptualized, it presents an opportunity to reconfigure and perhaps re-name a portion of the Young Athletes program. From a child development perspective, in both the US and the global context, the term *athlete* is not commonly used to refer to preschoolers. During the preschool years, national standards from several countries are consistent in the philosophy and terminology regarding young children. Specifically, they stress motor, social and language development in the context of cooperative play. The term "athlete" connotes both sports and competition and as such is inconsistent with developmentally appropriate practice. It is recommended that if the term Young Athlete is used, it refers to

the Young Athletes Developmental Sports (for children 5-7) and a different name or changed name for the YA Motor Play program for children ages 3-5.

G. Create a Developmental Sports Program

Because of the wide range in abilities represented in children who participate in YA, some children are advanced in their motor skills. Because of this, there is a need to establish a developmental sports program that bridges the developmental gap between the motor play activities in YA and the sports activities in traditional Special Olympics. This was confirmed in the YA Globalization Project with YA leaders and university partners indicating that many older children (ages 5-7) needed a more challenging developmental sports program as opposed to a motor play program. It is recommended that the existing YA Curriculum be used primarily for children 3-5 years of age and older children (ages 5-7) who have significant motor deficits. At the same time, the developmental sports program should be developed for those who are higher functioning or older, as a transition program in traditional Special Olympics. It is important to note that the choice to place a child in one or the other should not be based on age. Rather, the placement should be dependent on the child's abilities and interests, with children 5 years of age represented in both programs. If progress in this direction is not already underway, it is recommended that a working group be convened to develop this program with the understanding that the ages of transition into and out of YA should not be hard and fast but rather, transition from one program to the next during the early childhood years should be dependent on child's interest and abilities. Parents in conversation with YA Leaders should make decisions about transition to next programs; it should not be based simply on chronological age.

H. Discuss the Downward Extension of Young Athletes

Because of the wide age and ability range represented in children who participate in YA, many/most children are significantly below level in their motor abilities when they begin YA. While sports for infant and toddlers is inconsistent with appropriate practices, the field of Early Intervention has gained solid footing in the global context thanks to efforts such as the

International Society of Early Intervention. Indeed, during the YA Globalization Project, there was discussion among some YA Leaders as to whether there would be a downward extension of Young Athletes to establish an Early Intervention Motor Play programs for younger children (6 month to 3 years of age). In one Young Athletes site in Venezuela they have already begun an early swim and gymnastics program for children in this age group with one-on-one attendance of parents with their child. In addition, they have already collected initial evidence of the effectiveness of this program for both family recruitment into Special Olympic programs and effectiveness in increasing the motor skills of the participants. These promising findings are consistent with the outcomes of Early Intervention in the US and provide a glimpse into the long-term future of SO programming for the youngest children with intellectual and developmental disabilities. If SO considers starting more robust programs with this age group, it is recommended that the leaders in Venezuela be included in a working group to develop this program with parents, occupational and physical therapist who work in Early Intervention networks to ensure appropriate practices with the understanding that the ages of transition into and out of YA should not be hard and fast but rather, transition from one program to the next during the early childhood years should be dependent on child's interest and abilities. Parents in conversation should make decisions about transition to next programs with YA Leader who is working with their child. It should not be based simply on chronological age. It is also recommended that the use of the word Early Intervention (EI) not be used for the YA program as it may be confusing or misleading. EI is understood by the global community to include interventions and activities that support child development during the first months of life (birth-age 35 month). Those who work in EI have certification requirements and usually represent early childhood special education specialist, physical therapist, speech therapist, speech and language therapist, family specialist and so on. All of these professionals work with infants and toddlers who have developmental disabilities or with children who are considered at high risk for having developmental disabilities (including but not limited to intellectual disabilities) and their families. At the age of 3 (36 months) the field typically shifts to using the term pre-school years and often the lead is shifted to preschools to work with children and their families. Therefore, the term EI should not be used in reference to Young Athletes.

I. Develop Family Supports

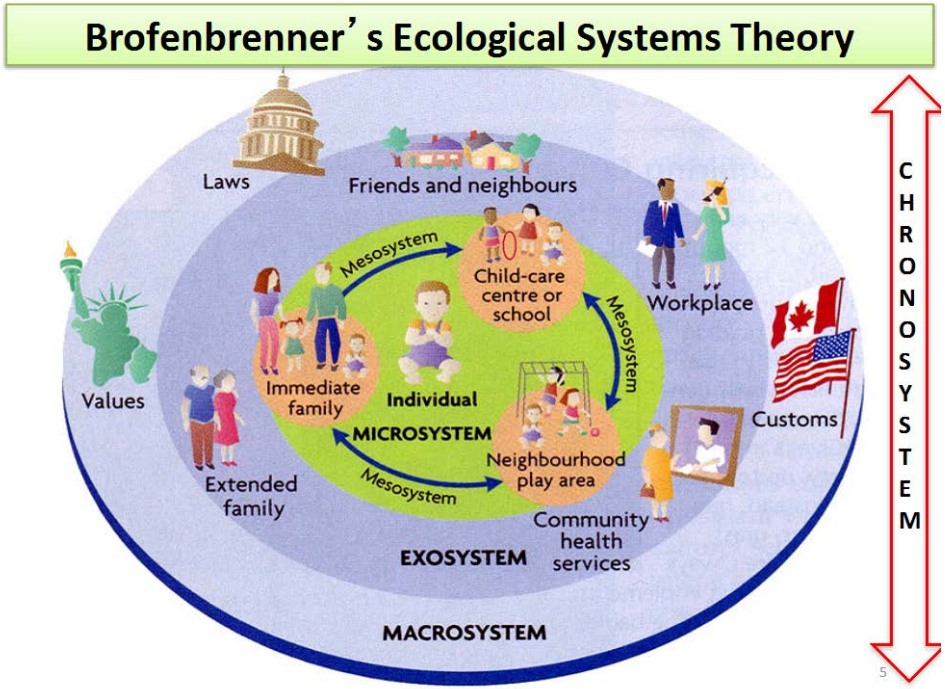
All programs provided some level of family involvement that included active participation in YA with their child as well as addressing 3 topical areas. It is recommended that future programs have simple family support materials developed to maximize the impact on children and families as well as support the expansion and sustainability of YA. Topical areas addressed should include:

1. *Basic Information* about child development, motor development, young children with intellectual and developmental disabilities.
2. *Social Support* within the YA parent group and connecting parents to other supports and resources within the community
3. *Leadership and Advocacy Training* to support parents in becoming the new YA leaders and training them in recruitment of other children and families

J. Address Attitudes, Stigma and Social Inclusion as an Integral Part of Young Athletes

Aside from improvements in motor development of participating children, the greatest impact in some YA programs was the multi-level impact on social inclusion within the family, the school and the community. While qualitative data from interviews and surveys provided this information, future YA programs would benefit from a quantitative assessment tool to be used with individual children and families to document these important gains. A tool such as this could also be used by the larger community to support the global efforts to foster a more inclusive world (e.g., UNICEF). Initial items for the Multi-Level Inclusion Index (Favazza & Siperstein) have been collected can be seen from Brofenbrenner's Ecologocial System Theory (Figure 2), the potential impact of a motor program for the young child can have profound impact on the inclusion and development of the child within the family, the school, the community.

Figure 2. Potential for Multi-Level Impact on Child, Family, School, Community



Such was the case in the YA Globalization Project. YA Leaders, university partners and parents reported that as a result of YA participation, parents included their child more in their daily routines at home, spoke to their child more, unlocked them from their confinement within their home. As a result of YA participation, children left their home to play, left their home to accompany a parent or sibling to the market or water well. As a result of YA, in some countries, classes for children with disabilities were offered at the local school.

It is worth noting that acceptance and inclusion do not occur automatically. Both require careful attention to all aspects of children's world, including attention to social inclusion and a sense of belonging and acceptance (Ostrosky, Favazza, & Mouzourou, 2013; Yu, Meyer, & Ostrosky, 2013). Attitudes are a complex, multi-component construct that includes a cognitive component (ideas about persons with disabilities), affective component (feeling associated with persons with disabilities) and a behavioral component (that predispose a child's behavior toward the attitude referent such as a child with a disability) (Eagly &

Chaiken, 1993; Triandis, 1971). Attitudes are learned from *indirect experiences* (such as books and conversations about individuals with disabilities), *direct experiences* (encounters with individuals with disabilities), and *the child's primary social group* (Triandis, 1971; Triandis, Adamopoulos, & Brinberg, 1984). For young children, their families are the primary social group and play a critical role in attitude formation; as children age, this group expands to include teachers and peers (see Horne, 1985; Jones, 1984; Yuker, 1988 for reviews**).** Recent studies have shed new light on the challenge of promoting acceptance of children with disabilities. For example, children under age 2 already show preferences towards those whom they perceive as similar to themselves, even if the child who is similar to them engages in inappropriate or aggressive behaviors (Hamlin, Mahajan, Liberman, & Wynn, 2013). Likewise, infants and toddlers have demonstrated a preference for others who match their preferences in choice of toys, food, and clothing (Fawcett & Markson, 2010; Manhajan & Wynn, 2012). Research also has shown that kindergarteners view peers with disabilities as someone who is different in appearance and who is unable to play (Dyson, 2005; Piercy, Wilton, & Townsend, 2002). While positive peer interactions are associated with the social acceptance of children with disabilities, children with disabilities are at risk of being rejected without focused programs to promote greater acceptance (Dyson, 2005, Favazza & Odom, 1996, 1997; Favazza, Phillipsen, & Kumar, 2000; Nowaki & Sandieson, 2002; Ostrosky & Favazza, 2008-2013). Future YA program would benefit from utilize the existing attitude research to intentionally increase likelihood of greater acceptance of children with disabilities. See Table 14 for quotes and observations reflecting the multilevel impact of YA. See subsequent charts that summarize the impact of YA on children, families and communities.

Table 14. Summary of Systemic Changes Attributed to the YA Program

Special Olympics Kenya and Tanzania
Summary of Systemic Changes Attributed to the Young Athletes Program

Family

- Parents' perceptions about their child changed, now realize their child and other children with IDD can learn, can go to school.
- *Family members becoming change agents*, seeking out other children with IDD from their community to bring them to YA and to schools and, encouraging other parents to do the same.
- Now that children are in school, *moms are able to go to work* resulting in increased family resources.
- All moms and dads talked of *support they receive from other parents*, from realizing that their child is not the only one, from greater knowledge about cause of disability and greater understanding of how to relate/communicate/play with their child; extended family know sees how to relate to child.
- Many parents indicated send their YA to the market to pick up items for the family, giving support to the whole family.
- Many parents gave specific examples of how the child has become more integrated within the family (volunteering to do tasks, like dishes, putting items away, helping their daddy put on slippers)
- Parents indicated their YA was no longer despised within their family; that parents and siblings alike now have more respect for the child and more expression of affection and love of the child.

School

- YA being started in borrowed classrooms which led to the same children now *getting into schools* (Inclusive in Kenya, special units in Tanzania)
- YA is being used a *recruitment* for children to come out of hiding and go to school
- Increasing number of children identified and now receiving education as well as YA
- As a result of participating in the assessment process, the YA leader has learned a great deal about assessment and observing children with disabilities, is better able to support their development and utilize these skills in her classroom.

Community: Neighborhood

- Parents reported that because their child has more confidence and is able to demonstrate his/her abilities, the YA children now leave the house to play with neighborhood children resulting in less isolation.
- Parents indicate that other children come and ask their child to play, resulting in social interactions and new friendships.

Community: University

- University students have learned that *children with IDD can learn, change and develop*.
- University partners are requesting that *YA and SO experiences and disability content* be *required in the University curriculum*, particularly the fact that early motor development undergirds all other areas of development
- Some university partners and their students are *undertaking research* related to children with IDD and YA
- University partner has stressed that because of the expectation of assessing children's skill level, data collection with YA should be continued, utilizing university students under the supervision of the university partner.
- Some discussion about approaching the 2 schools that provide training for special education teachers.

Community: Local Government and Funders

- Local government officials indicated that they have realized that children with IDD can learn/develop and now recognize that they need to be more pro-active about locating these children in their villages.
- Regional government has *recognized the increase in the number of children with IDD* because of YA recruitment.
- Regional government is *putting a line in budget for teachers and classes for children*, noting the need to increase the budget for classes for children with IDD.
- Now that children are in school, the local government sees that the *moms are able to go to work* resulting in improved economy of the village. (stated by the Regional Executive Officer for Budget and Finance, Pugu).

SPECIAL OLYMPICS VENEZUELA

1. **What are (3-5) challenges of Young children with disabilities and their families in your country?**

- Los niños y niñas con discapacidad intelectual en Venezuela son víctima de la discriminación ya que no tienen acceso a la salud, educación y servicios especializados de calidad.

  The boys and girls with intellectual disabilities en Venezuela are victims of discrimination en that they don't have access to health, education, and services that specialize in these qualities.
- Las personas tienden a rechazar a aquellas que poseen alguna discapacidad y en especial a las que tienen discapacidad intelectual.

  People tend to reject those who have a disability and especially those who have intellectual disabilities.
- Aquellos niños que además de discapacidad intelectual poseen otro tipo de discapacidad, presentan limitaciones en la participación a consecuencia de las barreras arquitectónicas y urbanísticas.

  Some children who have an intellectual disability also have other types of disabilities, en that they present limitations in participation in consequence of architectural and urban barriers.
- Aunque en Venezuela existen un gran número de escuelas para niños con discapacidad, las mismas no son suficiente para atender a toda la población.

  Although there are a large number of schools for children with disabilities in Venezuela, they are not sufficient to serve the entire population.
- Los padres de niños con discapacidad son muy sobreprotectores, trayendo esto como consecuencia limitación en el desarrollo social, intelectual y motor de los niños con discapacidad intelectual.

  The parents of children with disabilities are very overprotective, bringing this limitation resulting in social development, intellectual, and motor of the children with intellectual disability.

2. **How does YA participation meditate (address) some of these challenges for children?**

- YA ayuda a las atletas en el desarrollo de habilidades motoras, cognitivas y sociales que les favorece al momento de integrarse en actividades que todos los demás niños realizan, ya que logran interactuar y participar de forma activa.

  YA help athletes in the development of motor, cognitive, and social skills that favors in the moment that they integrate en activities that children perform, and who interacts and participates actively.
- Con el desarrollo de YA se logra captar voluntarios que apoyan en el desarrollo de las actividades, los cuales se convierten en multiplicadores de lo que se está realizado y los logros que se obtienen. Trayendo como beneficio la sensibilización de la población con respecto a esta población de niños con discapacidad intelectual.

With the development of YA achieved to recruit volunteers that can help with the development of activities, those that become multipliers of what is being done and achievements obtained. YA is bringing benefit and awareness with respect to this population of children with intellectual disabilities.

- También con la aplicación del programa de YA integrando a niños sin discapacidad se logra que ellos desde pequeños compartan como compañeros, viendo a los niños con discapacidad como iguales, previniendo de esta forma la discriminación más adelante.
  Also, with the application of the program YA, it integrates children without disabilities to achieve that, they, since small children share as peers, viewing the children with disabilities as equals, thereby preventing further discrimination.

3. How does YA participation mediate (address) some of the challenges for families?

- Es posible a través de YA capacitar a las familias, pudiendo ellas aprender del desarrollo de los niños, que luego lo podrían poner en práctica con sus hijos, fortaleciendo en casa las actividades realizadas durante las sesiones de YA.
  It is possible that through YA empowering families, they may learn the development of children that later they can put into practice with their children, strengthening the activities learned during the YA sessions in the house.
- Los niños que participan en YA pierden el temor al contacto con otras personas facilitando así la integración, ya que interactúan con niños iguales a ellos, con niños sin discapacidad, con familiares y adultos desconocidos, logrando romper un poco ese lazo de sobreprotección existente entre ellos y sus padres.
  The children who participate in YA lose the fear of contact with other people making the integration easier, in that they interact with other children who are the same, with children without disabilities, with familiar adults and strangers, achieving to break a little of the bond of over protectiveness that exists between them and their parents.
- YA demuestra a los familiares amigos y comunidad en general que los niños con discapacidad intelectual si pueden desarrollar habilidades y destrezas que les servirían en el futuro para desenvolverse en la sociedad como personas que son.
  YA shows family friends and the community, in general, that the children with intellectual disabilities if they can develop skills that will serve them in the future to develop in the society as the people they are.
- En Venezuela la aplicación del programa YA ha logrado captar la atención de las comunidades especialmente en los programas desarrollados en las zonas más necesitadas, quienes han dado todo el apoyo para lograr el objetivo.
  In Venezuela the application of the program YA has achieved to capture the attention of the communities especially in the developed programs in the zones that are needed most, who have given all the help to achieve the objective.

Special Olympics Romania

1. What are (3-5) challenges of young children with disabilities and their families in your country?

- the poverty of some rural areas makes it hard to identify the disabled children and bring them into specific educational, medical or sport programs
- the disabled children living in placement centres who grow up and enter adulthood have to find new ways to support themselves
- Some families abandon their children with disabilities because there is little or no family support or services for them
- although national legislation has been recently amended in order to reflect the principle of inclusive education, it has not yet been implemented in practice and cases of non-registrations or expulsions of children with disabilities from mainstream schools are frequent practices. Similarly, access to quality medical care is difficult for children with disabilities due to the lack of financial support and/or lack of specialised medical staff[1].
- The following gaps, problems and challenges have been identified: harassment and difficulties in integration of children with disabilities (in particular those with intellectual disabilities) in schools due to the lack of supportive environment; lack of expertise of public authorities (including teachers of public schools) to deal with children with disabilities; and lack of resources and/or difficulties in using the available resources.

[1] Country Report for Romania for the Study of Member States' policies for children with disabilities. European Parliament, 2013.

- in some situation, lack of public awareness, especially with regard to the situation of persons suffering from mental disabilities, and the existence of social prejudices.
- lack of a more dynamic and integrated development of public-private projects as private initiatives have proved to be more frequent and effective
- many families or persons taking care of children with disabilities are not aware of their rights and the existence of different forms of assistance provided by the State
- lack or insufficient amount of resources allocated for support of children with disabilities, including resources aimed at developing awareness raising programmes, has been recognised as a general and structural problem in Romania.
- [8]the lack of early intervention and structured physical education programs can lead to severe delays in the children's development, partially explained by the widely spread stereotype that children with disabilities cannot do physical exercise or sports

2. **How does YA participation mediate (address) some of these challenges for children?**

- children made significant gains in motor skills during YA see IMPACT ON CHILDREN!, fact which definitely enhances their functional independence
- the items of the Portage scale (applied to children participating in YA) revealed that socialisation, self-help, cognition, and motor areas improved in a great extent, fact acknowledged by parents or caregivers

- as the YA program took place in an academic setting, children got accustomed to interact with our students that they were not familiar with, at the beginning. Their social abilities, pleasure to exercise in group, to express likes and dislikes in a funny way, capacity to follow rules and still to become attached to their tutor improved a lot for all children who took part in this activity!

3. How does YA participation mediate (address) some of the challenges for families ?

1. parents connected with one another, shared precious experience, providing social and support network for families.

2. parents learned new exercises, means to play, adequate methods to address the kids' motor behavior and new ways to interact with them. Now they are more capable of doing these activities with the kids, in their free time, in a more diverse and "professional" manner, as all skills should be performed in the context of the family's rituals and daily routines and the child's play.

3. because children made visible gains, parents saw a greater potential for their children, and felt a greater motivation to involve them in more similar activities.

4. during some of the lessons, medical screenings were provided for the children, within Special Smiles (stomatology) and Opening Eyes Lions International (ophtalmology) Special Olympics programs. Additionally, parents joined family health forums, where health professionals shared new aspects, important issues about health condition of the kids, nutrition, specific issues of their secondary pathology.

5. they learned that besides logopedist or therapist, the intervention of a specialized physical educator is mandatory in order to minimize the motor deficit and to successfully approach the next developmental stages of the children.

6. parents felt confident in our approach so that they let their kids act more freely, more independently, enjoying this experience in a more relaxed ambiance.

As academic staff, we believe that involving our students as volunteers in activities with disabled children makes a lot of difference in the way they will address this issue in their future profession. The impact on the community will grow, as they will find ways to work on such projects and to familiarize their future pupils, athletes with the meaning of inclusive education. They can act like effective catalysts for social change, on the long run. Universities should become an active supporter or advocate, promoting the SO values, building communities sensitive to the special needs of those less favoured and being a catalytic force for volunteerism, civic engagement and inclusion.

NOTE. The comments from Kenya, Tanzania, Venezuela and Romania were synthesized and placed in the charts, which were presented to the Special Olympics International Board Meeting, June 0f 2014. The following 3 charts depict the Global Impact of Young Athletes curriculum on children, families and communities.

Global Impact of YA on *Children*

Challenges	YA Impact
Diminished Development	Improved Development
• Cannot grasp objects	• Grasps objects, catches/throws
• Falls frequently	• Walks with ease, runs
• Does not socialize	• Interacts with others
• Does not tolerate group activities	• Plays in group/leads group
Isolated, Invisible	Included, Visible
• Locked in rooms/homes	• Walks outside house, rides a bus
• Separated from families	• Participate in family routines
• Limited/ no access to friends, neighbors, community outings	• Play with family and new friends

Kenya, Romania, Venezuela, Tanzania

Global Impact of YA on *Families*

Challenges	YA Impact
Lack of Knowledge/Negative Perception	Increased Knowledge/Positive Perception
• Accepts cultural messages that child is uselessness, incapable of anything • Views disability as curse, demons • Feels the symbolic death of child and family	• Rejects cultural message after seeing change in their child and other children • Sees child as a blessing • Imagines a better, more hopeful future
Stress is Heightened	Stress is Buffered
• Shunned and ostracized • Fathers leave the home, mothers unable to work • Lack of support and skills	• Included in community activities • Support from other parents, YA leaders • YA programs and services (health, dental, vision, development)

Tanzania, Kenya, Romania, Venezuela

Global Impact of YA on *Communities*

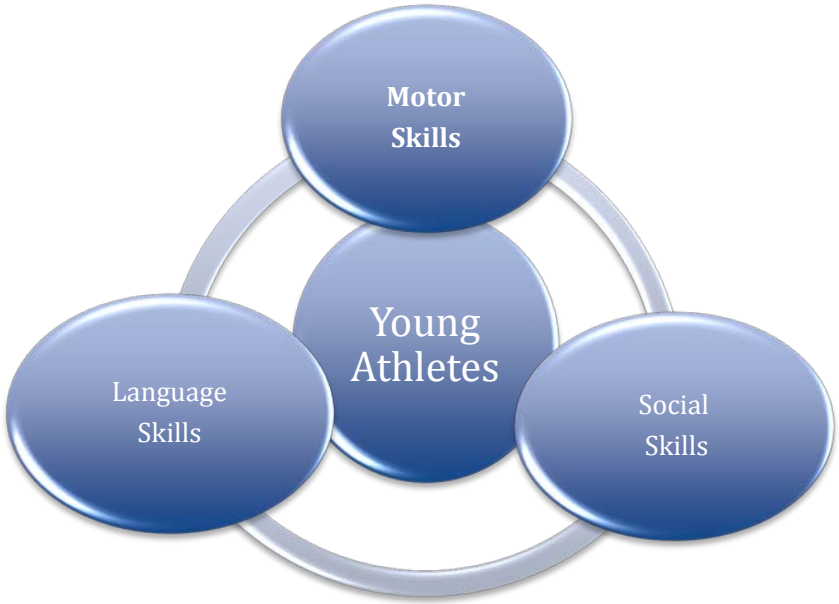
Challenges	YA Impact
Lack of Acceptance and Separation	Acceptance and Inclusion
• Deny access to community rituals and transportation (buses) • Lack programs • Does not allocate funds for classes for children with IDD	• Allow access to community rituals, buses, volunteer in YA • Provide rooms for YA, access school • Allocates funds for classes and teachers
No/Limited Opportunities	New Opportunities
• General lack experience with persons with IDD • Absence of training disability content in professional preparation	• Experiences provided for teachers, students, neighbors, volunteers • Training and information about children with IDD is provided

Tanzania, Kenya, Romania, Venezuela

K. Develop a Measure for School Readiness Skills

There is growing research suggesting a connection between motor skill development and school readiness skills. While there are many definitions of school readiness, there is consensus that kindergarten readiness is represented by a combination of 5 *inter-related skills* that cover a range of developmental domains that include the following: 1) physical well-being and motor development, 2) social-emotional development, 3) language development, 4) cognitive skills (such as pre-math and pre-reading) and general knowledge, and 5) approaches to learning (Ackerman & Barnett, 2005; National Education Goals Panel, 1997a, b; Howard, 2011; Kagan, Moore, & Bredekamp, 1995). Moreover, across all three evaluations of the YA program, YA leaders and parents alike reported changes in children's abilities to listen and follow directions, maintain attention, participate in a group activity, take turns, wait their turn, and so on. These are examples of receptive and expressive language, social skills coupled with motor skill gains reflect 3 of the 5 inter-related school readiness skills depicted in Figure 3. It is critical to demonstrate gains in this area associated with the YA program in resource poor countries where the pervasive perception of children with intellectual and developmental disabilities (IDD) is that they cannot learn and should not go to school. In the YA Globalization Project, demonstration of these and other skills lead to access to public schools and early childhood centers. It led to local official funding teachers for classes for children with IDD. IT is highly recommended that a School Readiness Check List be developed and used in tandem with the YAMC.

Figure 3. Impact of Young Athletes Program on School Readiness



L. Formalize Training and Training Materials

A sports conceptualization of YA may lead to *certified sports coaches* to work with very young children. However, if we mirror common practices seen in society at large, certified coaches are not typically used for very young children. From a developmental perspective, parents and teachers (who posses a background in early childhood and/or early childhood special education) are the primary individuals who facilitate development in young children. So, the use of sports coaches and certified sports trainings for working with children under the age of 5 may be misleading or confusing as it does not mirror commonly used approaches with young children. Instead of using the term "coach", it is recommended that the term *YA Leader* is used. Instead of "Coach Certification" use the term *YA Leadership Training*. Referencing those who implement YA as YA Leaders

may be a better match for the teachers (and many parents) possess many of the skills needed to implement YA. Another recommendation is that training be provided from a child development perspective. Attendees at previous YA trainings had background in early childhood, early childhood special education, early intervention, physical therapy, adaptive PE. YA training has been provided from a developmental perspective, which links YA to a variety of developmental outcomes (motor, social, language, etc.) as well as to importance of family involvement. The feedback indicates that the content was on target for the needs of YA Leaders. Note: in some countries where there is a need for parent training component (as is seen in the recent YA Globalization Project) this content is being added to the YA programs. In other words, the training should be culturally responsive to the needs of families and teachers from the individual programs with careful attention to terminology. The content of the YA training for the YA Globalization Project included: background and current research on the YA program, motor development, suggestions for structuring and individualizing YA using universal design for learning (UDL), how to document YA implementation and the motor gains of children who participate in YA. However, this training was not formalized or packaged for use with the YA programs. This seems to be an important next step for quality implementation as well as documentation of efficacy.

II. Sustainability and Expansion of YA programs.

A. Set Criteria For Funded Young Athlete Programs

Future grants for YA funded programs should utilize performance criteria that mirror the Global Expansion Project to ensure the expansion and sustainability of high quality YA programs. The criteria should include

1. *Participation in training* (about the YA program, motor development, attitude development, family needs, fidelity, pre and post assessment)
2. *Partnership with local university to*
    i. assist in training, pre/post assessment, fidelity data collection
    ii. recruit university student volunteers

iii. use data to seek commitment from college or university curriculum committees regarding the infusion of disability content and experiences in related disciplines (education, social work, psychology, health care)

3. *Partnership with local school or ministry of education to*
    ii. establish a registry of children with disabilities
    iii. share class space in school buildings
    iv. commit to efforts within the school system to adopt the YA curriculum as a viable early childhood motor program
    v. collaborate on efficacy based attitude change strategies within their school as SO seeks to establish inclusive YA programs within schools
    vi. offer information about disability content and experiences to other teachers and school staff
    vii. secure permanent school class or educational programs for children with disabilities
4. *Partnership with Health Programs to*
    i. establish a registry of children with disabilities
    ii. connect YA with medical, dental, vision and orthopedic screenings
5. *Partnership with Government and/or Policy Makers to*
    i. observe YA in action and hear about their documented successes
    ii. meet with family members and hear about their needs
    iii. meet with local NGO's, USAID to leverage YA as an effective inclusive measure that addresses child development, data capture, family employment, school inclusion and so on
6. *Commitment to Translation of All YA Materials*

    Simply put, if time, effort and funds are not put into translation of all materials, the implementation, expansion and sustainability of the Young Athletes programs is at risk. Separate contracting for this translation service may improve the capacity of Special Olympic programs to achieve this outcome without taking funding away from programming.

7. *Commitment to evidence based practice that sustains and expands YA by*

   i. instituting Data Capture Initiatives in each country that would serve to identify children with IDD and their families
   ii. utilizing child find measures (MICS and Abilities Index) to create a data base for village, local school, health organizations, government)
   iii. utilizing fidelity measure: YALL, Attendance, YA Observation Checklist
   iv. utilizing child measures: TGMD, YAMC, YA Progress Monitoring, School Readiness Measure
   v. providing families with information, support, leadership training for their program
   vi. establishing 1 model program that then spreads to 2 additional locations each year for the next 2 years.
   vii. committing to accountability and compliance for funded tasks (listed above)
   viii. documenting multi-level impact on inclusion via the validation and use of the Multi-Level Inclusion Index

8. *YA Programs for the Most Disenfranchised Children with IDD*

There are untold numbers of young children with IDD who have been removed from villages, towns and cities who languish in institutional settings (orphanages). Every country from the YA Globalization Project reported this and the lack of success in bringing YA to the most disenfranchised group of children. Future planning should include a task force that connects with leaders in a select group of countries to discuss approaches to gaining access to young children with IDD who are institutionalized but who could benefit from motor stimulation. The strategies utilized should include the same cadre of individuals (university partner, ministry of education, health professionals) to advance the social inclusion of children in these isolated settings.

9. *Funding*

Concerted and focused effort needs to be undertaken to get on the radar screen of major funders who are interested in impacting the negative impact of poverty, lack of early education, stigma, neglect and abuse of young children with IDD in the global context. All of the above recommendations require a consistent and long term commitment (of both human and monetary resources) to continue the current forward trajectory in the area of development, expansion, sustainability and

evaluation all of which impacts the provision of a high quality program that fills multiple needs of young children and families in resource poor settings.

a. While some effort was made to film the incredible YA story, it yielded poor quality footage. We did not have funds to do this with high quality. It is recommended that the YA footage be edited with translations captioned into it as one tool for using with potential funders. If this cannot be done, I strongly recommend redoing these film efforts with a well-equipped professional team to better capture the plight of these children and families and the impact YA had on them. In conversations with several people (including those with connections to *60 Minutes*) I have asked to see videos or how people can get involved in YA work in other countries. It is a compelling story that needs to be better packaged to garner attention and funding.

b. Programs leaders in Tanzania suggested the idea of establishing sister programs with YA programs and or schools from the US or UK. This type of partnership is not new but may be helpful in drawing attention to the issues and connect to funding.

c. Young Athlete programs with their university partners served as an excellent collaborative model that is ripe for service learning or internship opportunities and Fulbright projects. Efforts to connect to existing international initiative may be worth pursuing with university-based programs. Such efforts may provide much needed human resources for both the actual programs as well as university and community agencies.

d. Initial meetings with US AID representatives and those who work for the Ministry of Education was informative but should be viewed as only a *first* conversation. Three points became clear: a) data is required for all YA programs, b) the outcomes seen by YA in the global context match many of the needs within countries, c) one of the major barriers is lack of data capture (# of children with disabilities). I strongly recommend that YA efforts with young children and families become a change agent in capturing data (accurate counts of young children with disabilities and outcomes achieved by YA participation) with continued focused efforts and conversations at the international, national and local level to garner attention and funding.

Closing Remarks

With the global expansion of the Young Athletes program, we are presented with the unique opportunity to think carefully about how YA is conceptualized, implemented, expanded and sustained. This includes thinking about why the program exists, who is affected by the program and what will happen if we do not conceptualize Young Athlete programs in such a way, so as to encompass all of the goals of YA in the many corners of the world in which it takes place.

What Have We Learned About YA in a Global Context?

- As in the US, *children* with IDD experience significant delays in motor development. Using the same YA Curriculum as in the US, the study of Young Athletes in developing nations yielded similar findings. Specifically, children from developing countries who participated in the 8 week YA program made significant gains in motor skills, along with improvements in social and school readiness. An added value of YA in the global context: for the first time, children with IDD from these communities were counted, received developmental screening and gained access to preschool.
- Unlike in the US, *families* of young children with IDD in developing countries are in dire need of information, support and programming for themselves and their child. Young Athletes addresses many of these needs for families who experience acute social isolation. An added value of YA in the global context: YA parents reported that they now realize that their family is not cursed, their child has value and can learn and their child can be a part of family rituals and routines.
- Unlike in the US, *communities* in the global context typically exclude children with IDD and their families from every aspect of life. As a result of YA, community and school leaders gained new insights about and social acceptance of children with IDD. An added value of YA in the global context: the realization by school and community leaders that children with IDD can and should go to school. Because children went to YA in "borrowed space" at schools, they eventually gained access to preschool. Because they went to school, more teachers were hired and more parents of children with IDD went to work; impacting the economic resources of the family and the community.

YA is adaptable and *doable* in culturally diverse and resource poor settings.

YA is effective in impacting child gains in motor, social and school readiness skills.

YA is a game changer, a catalyst for multi-level systemic change.

YA is timely in addressing the current and complex challenges of children with IDD and their families and consistently aligned with tenets of the United Nation's Conventions on the Rights of Persons with Disability (CRDP).

YA should be supported in the global context to ensure that it is intentionally sustained as an evidence-based, family centered and community engaged program that continues to positively transform the trajectory children, the families, and communities toward a more inclusive society.

Dissemination Activities

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