Promoting Social Skill Learning Through Sport Socialization Intervention among Children with Intellectual Disability (ID) in Kenya: A Single Subject Experimental Research

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Abstract: **- This study evaluated the effect of sport socialization intervention programme on social skill learning levels in Seven (7) children with intellectual disability (ID) in Kakamega, Kenya. The intervention involved instructing, prompting, Individualized Educational Programme (IEP) and cueing child with ID into action.**

Methodology: Single Subject (SSD) quasi-experimental research design was used. Data was collected at three weeks interval during baseline, Treatment and reversal treatment Fourteen (14) weeks later. Data collection instruments: a 3-5-miute Video capture, Peer Social Task Rating Scale (PSTRS) observation checklists.

Data analysis: Data was analyzed by visual analysis, video coding and Null hypotheses tested by Statistical Process Control (SPC). Level of significance was set at -+3SD above UCL in SPC.

Results: The overall findings of this study showed all children had lower social skill functioning at pretest compared to posttest. Skills learnt were generalizable. Each Child in the programme recorded significant improvements after intervention with YAMY 3 at 56.7%, YAKS 4 at 60%, YAKS 5 at 63.3%, YAKS 6 at 51.6%, YARO 7 at 56.7%, YARO 8 at 48.3% and YARO 9 at 50% magnitude of improvement respectively Null hypothesis that expected no significant difference on child learning after intervention was rejected with Results from the data analysis also indicated that all the Children recorded Nine (9) consecutive point runs above the Upper Control Limit (UCL): YAMY3 standard deviation of MR score at 3.17, 2.53 for YAKS 4, 2.28 for YAKS 5, 2.59 for YAKS 6, 3.17 for YARO 7, 2.34 for YARO8 and 2.34 for YARO 9.esults demonstrating .

Conclusion: The intervention programme was effective in enhancing social skill learning of Children with ID and should be availed to all children with ID at school level. The study recommends that the study be replicated on Children with Autism Spectrum disorder (ASD). This study was significant in contributing to the attainment of UN general assembly's sustainable Development goal (SDG4) on inclusion.

Key words: **Social Skills, socialization, intellectual disability, intervention.**

I. INTRODUCTION

Disability sport socialization is concerned with how individuals with Intellectual disabilities acquire their socialidentities[1] [2].Socialization is an interactive communication process regarding social influence based on social learning mechanism used in assimilating various social experiences. Cues to Socialization may include among others: Verbalization, response to name calling, passing ball to team mate, ball contact, joining other children in play, holding hands, interaction with peers, and duration of contact in play[3].

Socialization of children with disabilities into sports has been activated within the United Nations Convention of the rights of persons with disabilities-UNCRPD [4] which Kenya has domesticated through the persons with Disabilities Act (PWD)[5] and most recently, the Inclusive Education Policy Framework[6]. Particular articles in these policies identify the rights of persons with disabilities in access, freedom, education, health, recreation, liberty, employment and rehabilitation. However, children with ID in Kenya are often absent from school system and if in school are segregated in special units in one corner of the school[7,8].This segregation poses a major challenge in the socialization and integration of these children into community life; necessitating interventions through evidence based research works.

Researchers have documented additional beneficial effects of sport socialization as: improving functional independence, emotional control, social awareness, enhanced adaptive behaviour levels, improved self-esteem and peer relations[9],[10,11].Various researchers have also recommended social skill enhancement of these Children through sports engagement[1213].Despite these, trend shows that majority of these children are still inactive and susceptible to social skill challenges.

Research studies on socialization of children with ID support the influence of peer support in the development of social skills [14][15][31][16][17].

Further, socialization of children with ID in competitive sports in Kenya has created programs in the school system, under the umbrella body of Special Schools Sports Association of Kenya (SSSA-K) Directorate of Quality Assurance and Standards[18]; these sports competitions are held once a year in April over a period of three days. However, very few children participate since they rotate in regions; posing travelling and accommodation challenges thereby restricting numbers [19].Special Olympics Kenya (SOK) has been running sports training programmes at community level for individuals with intellectual disabilities, their parents and the surrounding communities to learn skills in different sports. Family support network whose mandate is to cheer their children is being supported by the Special Olympic Movement [20]. Despite these few initiatives, attempts at socialization of children with Intellectual Disabilities (ID) through adapted sport programme has not been studied in Kenya, making this research long overdue. Factors in the socialization of these children have not been explored. Factors in the socialization processes in Adapted Physical Activity (APA) and sport is therefore an important prerequisite in designing effective intervention programs.

Research studies indicates that 70% of children with disabilities have low fitness and physical activity levels [21], [22], [23]. Numerous skill deficits interfere with the social functioning of children with (ID). Further, Disabilities estimates in Kenya are varied and also dependent on the study and tools of data collection. According to Kenya population household survey[24] it stood at 3.5%, while Kenya integrated Household Budgets Survey[24] is 11.4% and Statistical Year booklet [25], estimate it at 11% of the total population. These studies also provide estimates of individual estimates of specific disabilities as follows: ID (44-52.3%), VI (14-17%), HI (14.2-17%), PH(14-39.9% and Multiple at 8%. From these statistics Intellectual disability account for the highest no of children with disabilities in primary school in Kenya and the group most affected by social skill deficits, hence need for intervention.

Childhood is a critical stage for learning gross and fine motor skills, those without disabilities learn social skills instinctively and effortlessly during play interractions; however, these children rarely get opportunities to socialize with their peers in natural play situations unlike their counterparts resulting in social skill deficits [925].These, make them inactive and prone to social skill deficits[26].The lack of social skills by these children lead to rejection by peers and classmates, thus permanently becoming dependent on caregivers, families and society in general. The objective(s) of this study was to evaluate:(a) demographic characteristics of the study participants (b) the profile of changes in social skill learning levels of Children with ID, before and after the intervention programme The study hypothesis was **$H0_1$**: Sport socialization intervention programme has no significant effect on social Behaviour functioning levels of children with ID between pretest and posttest.

II. LITERATURE REVIEW

Several related studies have investigated social skill learning by children with intellectual disabilities globally. Brooks[3] investigated the impact of physical activities and social skill development of 7-12 year old Children with intellectual Disability (ID) in comparison to their typically developing peers(TD) using survey research methodology. Results demonstrated that the more time spent in unstructured activities, the higher the social competence. These results are in sharp contradiction with those of Eveheart[16], which demonstrated that structured physical activity of elementary school children provide more opportunities to engage with peers. These two findings are therefore inconclusive, hence necessity for further research to provide a more conclusive findings.

Researchers [27] investigated on strengthening social skills of SEN in Graz, Austria. Study involved 35 students with SEN and 108 typically developing peers in general education classes. Results from this study illustrated that SEN has less participation and felt less integrated in their peer groups. This study was on general SEN and only established the opinion of children and did not focus on specific disabilities in general education class, a gap exist for a similar study using a sport based intervention to establish fact in research on children with ID.

This Study was guided by the conceptual framework adapted and modified by the researcher based on the social cognitive theory of learning by Bandura[28] modified by Glanz &Rimmer[29]and mobile management Ecological model Sport participation by Matsudo (2004) presented here.

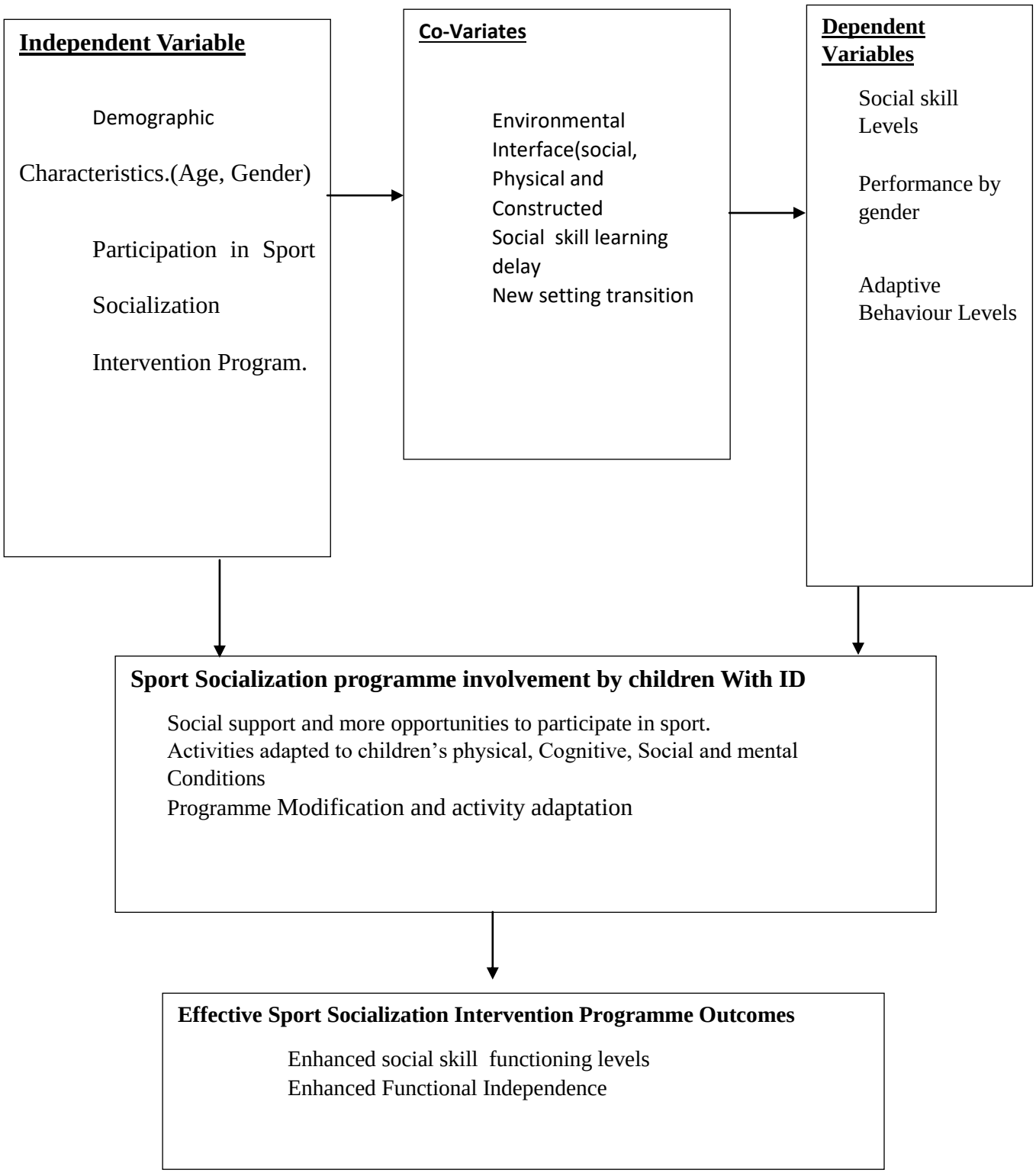

Figure1: Conceptual framework Adapted by the researcher with modification from the work of Matsudo (2004), Bandura (1989), Glanz and Rimmer (2005).

This concept was relevant to this study due to its emphasis on peer learning facilitation through corrective feedback and role modelling. Sport socialization Intervention programme was focused more on participation thereby ensuring equal treatment of all participants irrespective of skill level and deficits in social behaviour functioning levels throughout the study. The flexibility of this conceptual framework also provided the research team with opportunities for programme modification based on individual capacity of study participants and peer assisted learning at various points of data collection during the entire study period. It was hypothesized in this study that a sport socialization intervention programme integrated intrapersonal, social and constructed environment which led to social skill acquisition and social competence of children with ID. The outcomes (e.g. Improved peer interaction, improved social skills, improved functional independence), whereas absence of the same outcomes was equated to no effect on participant's social behaviour functioning levels in this research study**.**

The replication of available evidence in a different cultural context involves testing the effects of this intervention in the light of clinical peculiarities of the Kenyan Children with ID. The investigation about the feasibility of Sport socialization models to meet Kenyan children's needs may help improve and broaden improvements in the social skill functioning, functional independence and may help broaden clinical actions of adapted physical activity professionals.

III. METHODS AND MATERIALS

This study used simple ABA single subject quasi-experimental research design replicated in 7 subjects. This research methodology has been used previously by other researchers in other countries as evidence based intervention on social skill learning among children with disabilities.[303132]. Quasi-experimental design resembles experimental research but is not pure clinical trial. Although the independent variable is manipulated, participants are not randomly assigned to conditions or orders of conditions [33]. The most compelling advantage of this design is that they are easily more frequently implemented than their randomized cousins [34], hence its relevance for use in this Study.

Purposive sampling was used to select eight children with Mild to moderate ID aged between 8-14 years four of whom were Girls and the other Four were Boys and 24 typically developing peers enrolled in public day schools in Kakamega County, Kenya. Parents/Gurdians of the study participants were fully informed in advance regarding the objectives of the study.

Exclusion criteria was used to guide in the study sample selection. The Study excluded children with Intellectual Disability (ID) attending special public primary schools within Kakamega County, who use assistive devices for mobility and have severe health conditions that would hinder their participation in the sport socialization intervention programme. Children aged 7years and below and others who were likely to attain 15years of age, before the end of the Intervention Programme were also excluded from the study. Children from boarding primary schools were also excluded from the study due to difficulty in getting consent from their Parents/Guardians and a personnel to a company them to and from the study site for the entire period of

The study methods involved no risks to the participants, and written informed consent was obtained from each participant's parent /Gurdians. Assent was obtained from the children before commencement and all agreed to take part in the study. Authorization to carry out this research study was granted by the National Commission for Science, Technology and Innovation (NACOSTI) Kenya. This is the research coordinating agency in Kenya.

The pretest and posttest data of the case group was done in three stages: pretest (baseline) for two weeks with non-intervention,, participation in the sport socialization intervention programme (treatment) for Ten weeks(two hours of instruction and observation across 28 sessions) and Two weeks of reversal treatment /termination of treatment. Study duration lasted fourteen (14) weeks. Observation checklists and Video Capture were conducted at three weeks interval. The typically developing peers were part of the intervention and not subjects in the study.

This experimental research involved training these children in social skills through practical skill demonstrations, cueing, prompting, verbal instructions and manual kinesthetic guidance using an adapted protocol of soccer skills, fun and recreational games supported by peers under the guidance of a young volunteer coach. Eight(8) research assistants who were blind to the intervention programme were recruited and trained on the data collection procedures.

The semi-structured intervention programme in cooperated informal training of the children in hygiene (handwashing) during snack breaks and parent educational component to acquire skills and be contracted to teach their children at home as well as support their child with ID .The researcher determined the social Behaviour functioning levels of the subjects prior to sport socialization intervention programme exposure. This Study was carried out in Kakamega County. Kenya. Kakamega County is one of the 47 devolved units in Kenya under the new constitution. The county lies within an altitude of between 1,240 meters and 2000 meters above sea level within the equatorial rain forest in western Kenya[35]. The map showing administrative boundaries of Kakamega, County is presented here below.

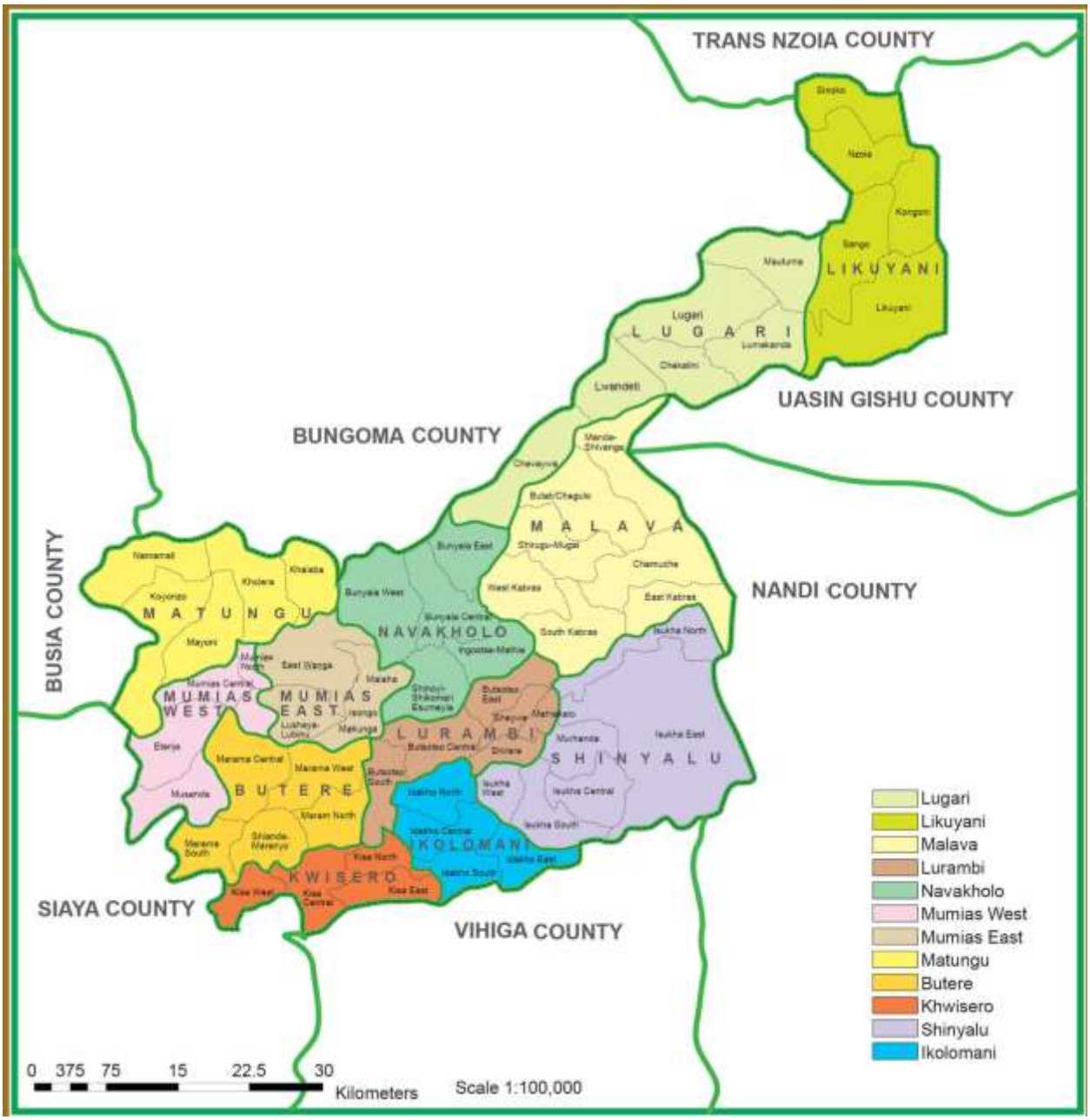

FIGURE 2: Showing Map of Kakamega County,Kenya.

Study site was based at Masinde Muliro University of Science and Technology where. Participants converged for the programme implementation; this was done to ensure reliability of the measurement procedures and to expose them to the same environment with standardized training and instruction while performing activities in the social skill rating checklist, hence need for the centralization.

This project involved Children from three primary Schools coded appropriately for purposes of data collection as follows Rosterman (RO), Mayiakalo (MY) and Kakamega (KS) with Special Units for children with intellectual disabilities. The participants were coded as Young Athletes(YA),a term synonymous with special Olympic training guidelines.The study was restricted to children who had been assessed and confirmed as having mild to Moderate intellectual disabilities aged between 8-14 years old accompanied by their parents/guardians/caregivers. School records were used in the selection of subjects and present level of disability was confirmed through use of Multiple Indicator Cluster Survey-MICS[36]. The study was confined to public day Primary Schools with Special Units for children with intellectual disabilities (ID) in Kakamega County, and the intervention program lasted for a duration of Fourteen (14) weeks.

3.1 Data collection instruments Instrumentation

Data collection instruments used in this study borrowed heavily from validatedinternational instruments so as to make the Methodology and findings of this study comparable to those of other Countries.

(a) Video Coding and Multi-modal Dyadic Video Analysis

Video capture and multi-modal dyadic video analysis[37] was adapted by the researcher and used to record and decode participant's social behavior, their voices and body languages. This comprised of data sets containing 28 sessions of 3-5 minute participant-participants during key moments of interactions in play. In each session, the Young Leader examined an adapted semi-structured soccer training and fun games protocol in table 2 below which was designed to elicit abroad range of social behaviors and methods to decode the interractions. Study recorded 28 sessions through multi-modal data sets which contained high interactions based on behavioral cues under investigation.

These cues were recorded by research assistants during the sport socialization intervention programme in play fields. An associated scoring sheet was used by research assistant to note whether a child engages in a social behavior following verbal prompts including eye contact, smiling, holding hands, kicking ball back, picking social cues, asking for help and smiling during key moments of child to child interactions. Immediately following completion for each sub- stage, child's effort to engage was rated using a 3 point Likert scale as follows as :0=easily engaged,1=little effort required to engage,3=significant effort required to engage, eventually collapsing 1 and 2 into one category. Scores closer to 0 is equivalent to high social skill rating, while score closer to 2 is poor social skill (refer to table 1 below) showing video coding checklist rating. This was then cross-referenced with scores on PSTRS to get the raw scores for each participant in social skill functioning.

Table1:Video Coding Checklist. Adapted and modified by the researcher from the work of Faith et al.(2012) and used to assess child's effort in executing various social tasks during the Study.

SOCIAL TASKS	COMMENT/SCORE
Joining Other Children in Play (JOP)	
Responding to Other Children in Play (ROC)	
Name Calling (NC)	
Passing Ball to Team mate (PBT)	
Playing Games with Others (PGO)	
Having Conversation with Other Children (HCC)	

Child, s Name/Code: ----------Gender: ----------Age: -----

0=Significant effort used to engage. 2=little effort used to engage

(b) Peer Social Task Rating Scale(PSTRS).

This tool was adapted from Social Skill Rating Scale[38] and used with modifications by the research team to measure social skill functioning levels of children with ID during the study for purposes of triangulation. It measured how often a child attempted various social tasks and child's success at each task using a 5 point Likert scale ranging from 1=rarely ,5=very often ,research assistants rated the child with ID in seven social tasks(joining other children in play, responding to other children in play, responding to name calling ,passing ball to team mate, playing games with other children and having conversations with other children). Total scores were created by summing the frequencies of skillful strategy use with reverse coded unskillful strategy use(-5 to -1). Higher frequency / positive scores=skillful strategy, low frequency/negative score=unskillful strategy.

The table below presentpeer social task rating Scale checklist adapted with modification by the researcher from the work of Gresham &Elliot [38] (1990) and used to assess participants social skill learning during the study.This table was designed to assess how often a child attempts various social tasks and child's success at each task which was peer oriented

Table 2: Peer Social Task Rating Scale (PSTRS) .Adapted with modification for useby the researcher from the work of Gresham and Elliot,(1990)

Child's Name/Code----------Age----------Gender----------Ability-----

Social Task	Social Strategy	Comments/Score
Joining group of children in play	**When child joins group he/she:** -watch and wait to be invited +wait and try to join without being disruptive to group. - ignores playmates	
Responding to other children	**When a peer approaches, child with ID:** -ignores or withdraw from him/her +respond in a warm and friendly way -child appears awkward or uncomfortable	
Name calling	**When peer calls child with ID by name he/she:** -withdraws and walks away +responds in affirmative and moves toward the caller -does not respond at all	
Passing ball to teammate	**When team mate signals for ball to be passed to him/her, child with ID:** -ignores and doesn't pass ball +responds in a warm manner, smiles and passes ball to target	

Play games with others	**When child play games with others they:** +play fair and follow rules +wait to take turns -Act like sore looser +lose and win graciously	
Having conversations with other children	**When child with ID has conversation children they:** -Fail to stay on topic Talk about themselves/focus on their interest—fail to understand what other child is saying +communicate clearly +listen well to what others are saying	

+=Skillful strategy (5 to 1)- =Unskillful strategy (-1 to-5)

Data Analysis and Presentation

Data collected was cleaned, coded and subjected to SAS/ETS version 9.0 in a computer.

Study did not use inferentialstatistics due to; limited data points, limited generalizability since data was gathered on single subject and in disability studies concept of individualization is key in implementing interventions [31], this is because each disability may present different clinical manifestations requiring specific and special adaptations in the programme to meet each individual need and finally serial dependency of data points [39], since they were mutually exclusive. School records were used to assess demographic characteristics of the study participants in objective one of this research paper. Visual analysis was used to analyze data on objective two on determination of the effect of sport socialization intervention programme on Social Behaviour functioning levels of Children with ID in Kakamega County, Kenya.

The stated Null hypotheses of no significant difference on social skill learning of Children with ID before and after the intervention was tested by Statistical Process Control (SPC)[38]. Range of two successive observations were used to measure variability. Results were presented in percentages, line graphs, charts and tables. SPC helps to ease out variables inherent in any process so that both researchers and practitioners understand whether interventions have had the desired effect. Control Charts for individual measures were used to set the control limits for each individual participant in the Study; where sample size=1, used moving range of two successive observations to measure variability.

Moving range is defined as:

$MR=(X_{1=}X_1)$.

The mean of the baseline was used, which is the absolute value of the first difference (difference between two consecutive data points) of data analogues to the control chart, where both data of individual score and moving range of baseline was plotted as follows:

$UCL= \overline{X} +3\frac{\overline{M}R}{1.128}$

Center line = $\overline{x}$

$LCL = \overline{X} -3\frac{\overline{M}R}{1.128}$

Where the $\overline{x}$ is the average of individual score, where MR is the average of the moving range of the baseline of two observations. (note that 1.128 is the value of d_2 for n-2).Control charts for individuals scores are used ;incase none of the plotted points fall outside the Upper Control Limits(UCL)or Lower Control Limits(LCL),the process is in control and not special effect elicited a change hence no significant effect, hence rejection of Null Hypotheses. The level of significant difference was acceptable by determination of special effect across the data sets of Upper Control Limits (UCL) and Lower Control Limits (LCL) + -3SD of moving range of baseline as follows: points above or below the upper control limits (UCL), Six consecutive point runs; five (5) or more points cutting across the Centre line demonstrated changes in trend, whereas points between baseline and final treatment demonstrates levels in social skill functioning.

IV. RESULTS

(a)Demographic details of Study Participants

The first objective of this research study established the demographic information of Children with ID,which included Age, Gender, and ID level.The study participants were aged between Eight (8) to Fourteen (14) years old both Boys and Girls. All the participants had a medical diagnosis of Mild and Moderate intellectual disability, and had cognitive abilities to follow verbal commands and cues. , did not use any mobility devices and did not use any prescription drugs within Six months prior to the Study. During the Study, the participants were not in any other interventions to improve Social skill learning. The table below presents descriptive information of each child in the study. Seven (7) out of eight (8) participants attended all sessions (90%) and used for analysis.

Table 3: Descriptive information of each child's demographic characteristics

S/NO	PARTICIPANTS CODES	AGE	GENDER	ID CATEGORY
1.	YAMY 3	9 Years old	Female	Mild ID
2.	YAKS 4	10 Years old	Female	Moderate ID
3.	YAKS 5	11 Years old	Male	Moderate ID
4.	YAKS 6	14 Years old	Female	Mild ID
5.	YARO 7	14 Years old	Male	Mild ID
6.	YARO 8	12 Years old	Female	Moderate ID
7.	YARO 9	9 Years old	Male	Moderate ID

Yamy 3#: is a girl aged Nine (9yrs) with mild intellectual disability, speech and physical ability not affected and is enrolled in aspecial unit in her Primary school.

Yamy 4#: is a girl aged Ten (10) years old. She has Moderate ID, specifically Down syndrome. She has speech deficits and stereotypic characteristic temper tantrums and withdrawal syndromes. She is enrolled in aspecial unit in her school which caters for children with various disabilities.

Yaks 5#:is a boy aged Eleven (11) Years old, has Mild ID and Physical impairment of mild hemiplegic cerebral palsy causing mild paralysis on the right side of the body.Has gait problems but can ambulate on his own.

Yaks 6#: is a girl aged Fourteen(14).Diagnosed with Moderate ID, specifically Down syndrome and is enrolled in aspecial unit for children with mental retardation. She has no other pathological effect.

Yaro 7#: is a boy aged Fourteen (14) yearsold.Diagnosed with Mild ID.No associated pathologies and able to follow simple instructions.

Yaro 8#:is a girl aged Twelve (12) Years old. Diagnosed with Moderate intellectual disability. Stereotypic behavioral characteristics included withdrawal and temper tantrums. Child was able to follow simple instructions.

Yaro 9#:is aboy aged Nine (9) years old and has a diagnosis of Moderate ID, specifically Down syndrome. The child has withdrawal syndromes, delayed speech and low vision.He is enrolled in special unit for ID in his school.

The results of demographic details of the Study participants by gender is hereby presented infigure 3below

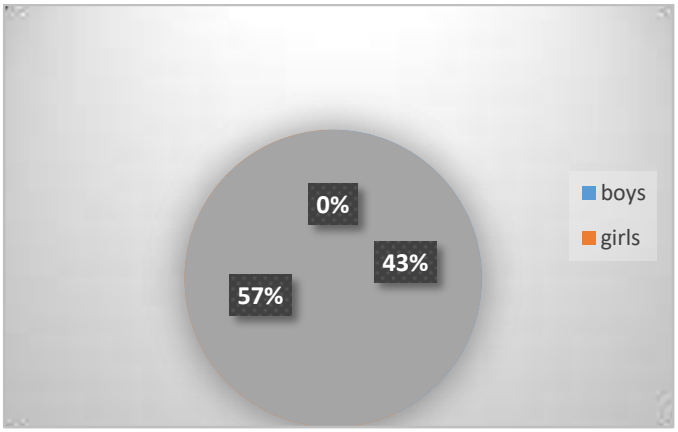

Figure: 3: Showing the distribution of Study participants by Gender

A total of Seven (7) Children took part in this study for the whole duration of the intervention, Four (4) of whom were Girls (57%) and the other Three (3)(43%) were Boys with intellectual disabilities (ID).In this item Gender was important as it explained interest and social skill learning between Boys and Girls. There was near equity in gender representation in this study as shown above. Both Boys and Girls had equal chance of participating in this Study. However, it important to note that this gender representation is not a reflection of normal gender distribution and that this was a single subject study and data was mutually exclusive for each individual cases

(b) Child overall performance on social skill functioning

In this second objective, the researcher sought to understand the overall social skill functioning of each child from the sum of all social tasks each child was exposed to during the intervention. Results of child performance was interpreted by cross referencing the video picture analysis and Peer Social Task Rating Scale (PSTRS) checklist.Table 5 below present results on social skill learning.

Table 4: Total Peer Social Task Rating Score for each child in the programme

CHILD	PRETEST	POSTTEST	REVERSAL	% IMPROV.
YAMY3	-16	18	14	56.7 %
YAKS 4	-21	15	15	60%
YAKS 5	-18	20	20	63.3%
YAKS 6	-16	15	15	51.6%
YARO 7	-17	14	14	56.7%
YARO 8	-14	16	16	48.3%
YARO 9	-18	12	11	50%

Figure 5 below present results of the visual analysis on social skill learning levels on social task rating scale between pre and posttest.

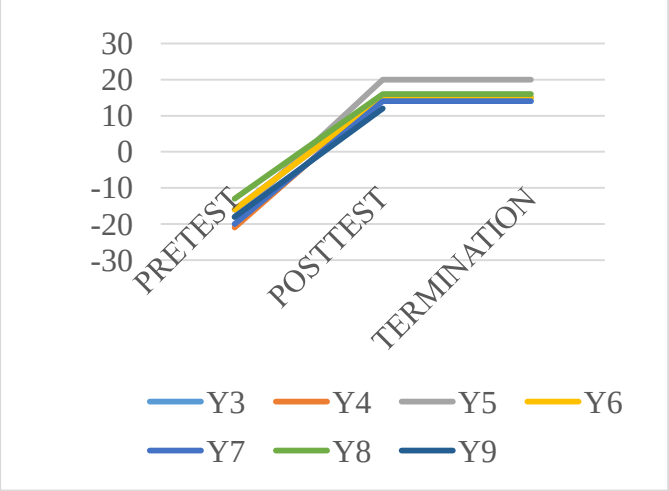

Figure 5: Visual analysis of total social skill rating of participants at pre and posttest.

Participants improved on social skill functioning after intervention as follows: YAMY 3 at 56.7%, YAKS 4 at 60%, YAKS 5 at 63.3%, YAKS 6 at 51.6%, YARO 7 at 56.7%, YARO 8 at 48.3% and YARO 9 at 50% magnitude of improvement respectively

Results from Peer Social Task Rating Scale (PSTRS) demonstrated that the intervention programme improved the children's score between pretest and posttest in both trend and level. YAMY 3 registered a total score of 15, YAKS 4(15), YAKS6 (15), YARO 7(8), YARO 8(19) and YARO 9(12) after the intervention. Cumulatively, each Child's score at post test showed marked improvement, a confirmation that, the intervention programme improved child's learning of social skills functioning cues. Each Child in the programme recorded notable improvements after intervention with YAMY 3 at 56.7%, YAKS 4 at 60%, YAKS 5 at 63.3%, YAKS 6 at 51.6%, YARO 7 at 56.7%, YARO 8 at 48.3% and YARO 9 at 50% magnitude of improvement respectively. The improvements were sustained and generalizable during reversal treatment.

The null hypothesis that expected no significant difference in social skill learning before and after the intervention was rejected based on the analysis of the statistical process control. Summary of programme effectiveness on children performance based on total peer social task rating for social skill functioning levels in this Study is presented in tableFour (4) below.

Table 4: Statistical analysis in social skill functioning for each participant.

CHILD	PRETEST	POSTTEST	SD of MR Score	% IMPROV.	SIGNIFICANCE
YAMY3	-16	18	3.17	56.7 %	*
YAKS 4	-21	15	2.53	60%	*
YAKS 5	-18	20	2.28	63.3%	*
YAKS 6	-16	15	2.59	51.6%	*
YARO 7	-20	14	3.17	56.7%	*
YARO 8	-13	16	2.34	48.3%	*
YARO 9	-18	12	2.34	50%	*

*=Significant NS=Non-Significance

All the participants posted statistically significant improvement in social skill functioning with YAMY3 SD of MR score at 3.17, 2.53 for YAKS 4, 2.28 for YAKS 5, 2.59 for YAKS 6, 3.17 for YARO 7, 2.34 for YARO8 and 2.34 for YARO 9 respectively.

Statistical analysis of X-Control charts of SPC, demonstrated special effect of programme on each of the children between pretest and posttest. Results from the data analysis also indicated that all the Children recorded Nine (9) consecutive point runs above the Upper Control Limit (UCL): YAMY3 standard deviation of MR score at 3.17, 2.53 for YAKS 4, 2.28 for YAKS 5, 2.59 for YAKS 6, 3.17 for YARO 7, 2.34 for YARO8 and 2.34 for YARO 9.From this analysis report; all the scores during and after intervention were above the threshold of special effect at Six (6) consecutive point runs above UCL.

(c) Fidelity of Implementation

Data analysis on fidelity of implementation indicated that children were present 90% of sessions for 90 minutes for Twenty Eight sessions at 98% duration. Use of the three measures of child attendance, number of sessions and duration confirmed that the programme was implemented with high fidelity. This findings agree with Favazza et al[40,] Wairimu et al[41]which reported that when sports programmes were implemented with high fidelity, it improved motor activity and social skills of children with intellectual disabilities in Nairobi County Kenya.

and contributes to child's learning of motor skills and psycho-social skills. Further expansion of content was relevant in the attainment of objectives of the study in line with sustainable Development Goal [42]regarding inclusion

(d) Demographic details of the Study participants

Data analysis on Demographic characteristics of the Children with ID illustrated that 43% were Boys while Girls constituted 57% as presented in figure 4.1 of this study. This illustrated near equity in gender representation in this Study. These findings disagrees with research findings by Brooks [3] Thangu[43] which established that more Boys than Girls participate in Sports. This could be true, but in this study the researcher made deliberate effort to have near equity in gender representation so as to validate research findings due to limited data points and study design.

Regarding Participants ID level, data analysis demonstrated that child's response at baseline was affected by ID level as they lacked social skills before intervention. This finding agrees with those Brooks[3] Edward[44],Garguilo&Kilgo[45];Gosh&Datta[10];Maina[46,];Townsend &Hassall[14],reviewed in the introductory part of this research report, which indicated that they lag behind in delayed language development, restricted movements and sensory processing problems

(d)Effect of programme on Social Skill Learning

In this second objective of this research,data analysis results illustrated that each of the Seven (7) children recorded notable improvement at posttest compared to pretest in social skill tasks. These findings agree with research findings by Brooks[315] discussed earlier in the literature review. They investigated on impact of structured versus structured activities on social competence of 7-12 year old children with ID, using survey research methodology in the United Stated of America. Results in this study demonstrated that the more time spent in unstructured activities the more the social competence.

On the other hand this research findings was not supported by that of Eveheart et al[16] which reviewed several studies on influence of structured physical activities on academic progress on elementary school children. Results demonstrated that structured physical activities provide more opportunities

for ID for social skill development. This study used the middle approach of semi-structured where some datasets had structured sessions while others had unstructured components. Some children responded well during structured sessions as opposed to unstructured. Child ID level and behavior of the peer without ID could have more influence than the programme type, hence need for more research on programme type. Both sessions led to improved learning of social skills.

All these three studies had divergent views of the impact of programme type, but agree that sport participation in a peer supported programme improve social skill learningof children with ID. Study recommends further research to compare type of programme that results in better impact on social skill learning on child with ID between structured, semi-structure and structured programmes. All the three studies contended that sport programme irrespective of type can improve social skill learning of children with ID.

V. DISCUSSION

Data analysis on Demographic characteristics of the Children with ID illustrated that 43% were Boys while Girls constituted 57% as presented in figure 4. of this study. This illustrated near equity in gender representation in this Study. These findings disagrees with other researchfindings [34241] which established that more Boys than Girls participate in Sports. This could be true, but in this study the researcher made deliberate effort to have near equity in gender representation so as to validate research findings due to limited data points and study design.

Regarding Participants ID level, data analysis demonstrated that child's response at baseline was affected by ID level as they lacked social skills before intervention. This finding agrees with those (Edward[45], Garguilo&Kilgo[46] Gosh&Datta[10]and Townsend&Hassall[14]which reported that they lag behind in delayed language development, restricted movements and sensory processing problems. Data analysis results illustrated that each of the Seven (7) children recorded significant improvement at posttest compared to pretest on child overall performance on social skill functioning

Age did not affect child with ID learning of social skills, though study only compared child scores across data sets. These findings disagree with research findings by Klavina &Radionova[11]Which investigated on social interactions of younger children versus older Children with ID; whose results documented that older children find it difficult to interact, whereas younger ones, easily interact. This study suggests necessity for further research to confirm the findings .The sport socialization intervention programme had effect on all children with intellectual disability in the learning of social skills irrespective of age. On the other hand findings agree with othre research findings [2611,]whose research findings support that peer supported intervention programme enhances social skill learning in children and youths with ID and should be encouraged.

VI. CONCLUSION

The study concluded that PSTRS and Video capture offers viable methods of assessing social skills learningof with Intellectual disabilities who have an impairment in social skill functioning during the sport socialization intervention programme. as programme differs slightly for each ID level and type. Study concluded that the Sport socialization intervention programme was effective in supporting social skill functioning between pre-test and post-test for each individual performance.The overall findings of the study illustrated that there were significant improvements on social skill learning after intervention compared to before.The Study further concludes that, social aspects of inclusive setting are important for social integration and functional inclusion to children with ID at house hold and family levels.The sport socialization intervention programme in Kenya was malleable in supporting social skill learning of children with intellectual disability in Kenya and should be availed to all children in and out of school. The study recommends that the study should be replicated among other groups of Children with Autism Spectrum Disorder (ASD) and Cerebral Palsy (CP) who also experience social skill deficits.

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