

Development model Sport Participation Model Recommendations

Intellectual Output #02 Report

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Abbreviations:

UN-CRPD – United Nations Convention on the rights of persons with disabilities

ID – Intellectual Disabilities

UN – United Nations

WHO - World Health Organization

ICF - International Classification of Functioning

ADM - Athlete Development Model

CDM – Coach Development Model

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Summary

Individuals with intellectual disability (ID) experience higher rates of social exclusion and more restrictions to becoming fully included in their communities (Abbott & McConkey, 2006; Amado, Stancliffe, McCarron, & McCallion, 2013; Taheri, Perry, & Minnes, 2016).

Programs and policies to foster social inclusion of this population are essential.

To create more inclusive practices and make sport accessible to everybody at any level, a reformed sporting agenda that moves from focusing on the deficits of individuals towards understanding the complexity of sporting practices through bio-psycho-social model approach to disability has been suggested. There is a wide variation in the physical, cognitive and emotional development of athletes within each and every age group. Therefore, it is imperative to treat each athlete as an individual with different wants/needs and with different ways of communicating these wants and needs. Assumptions based upon disability type can be detrimental to the athlete, coach and team.

Design of optimal individual programs with relation to “critical” or “sensitive” periods of trainability during the maturation process considering all the perspectives (bio-psycho-social) of developmental spectrum are the central in the participation development model proposed within the SocPORT Project.

1 Introduction

Article 30 of the United Nations' (2006) Convention on the Rights of Persons with Disabilities (UN-CRPD) states that its signatories "...recognize the right of persons with disabilities to take part on an equal basis with others in cultural life" (defined as participation in recreation, leisure, the arts, sport and tourism).

The UN-CRPD reinforces disability discrimination policies and legislation that many countries have in place to enshrine the right of citizens to a cultural life. Despite these enabling policy initiatives, people with disability experience significant discrimination, exceptionally lower levels of employment and significantly higher levels of poverty than the general population (World Health Organization & World Bank, 2011).

This is confirmed in all project participating countries as it is confirmed in the Good practice analysis report (SocPORT Output #1 - Report).

Studies (Verdonschot, De Witte, Reichrath, Buntinx, & Curfs, 2009) have found that persons with disabilities participate at lower rates than the general population in all forms of cultural life, but particularly in sport activities (Jong, Vanreusel, & Driel, 2011).

Individuals with intellectual disability (ID) experience higher rates of social exclusion and more restrictions to becoming fully included in their communities (Abbott & McConkey, 2006; Amado, Stancliffe, McCarron, & McCallion, 2013; Taheri, Perry, & Minnes, 2016).

Programs and policies to foster social inclusion of this population are essential. Three key concepts inherent to social inclusion of individuals with intellectual disability include participation in one's community, positive interpersonal relationships and a sense of belonging (Hall, 2010; Simplican, Leader, Kosciulek, & Leahy, 2015 in Bailey et al. 2010).

These can be enhanced through meaningful participation in sports and physical activities (Grandisson, Tétréault, & Freeman, 2012; Inoue & Forneris, 2015; McConkey, Dowling, Hassan, & Menke, 2013).

At the moment, the options available to people with intellectual disability in regard to being physically active in their communities appear to be largely in specialized settings, alongside their peers with intellectual disability. For instance, more than five million athletes with intellectual disability participate in Special Olympics all around the world (Special Olympics, 2017).

This organization provides opportunities to children and adults with intellectual disability to participate in training and competition with their peers with intellectual disability in a variety of sports. Special Olympics traditional programs are accessible to people with a large variety of skills in more than 90 countries. These programs have been documented to contribute to self-esteem development, gains in emotional self-control, perceived physical competence and self-worth (Choi & Cheung, 2016; Crawford, Burns, & Fernie, 2015; Fiorilli et al., 2016; Weiss & Bebko, 2008). In addition, these contribute to the social inclusion of athletes with intellectual disability by enabling them to develop meaningful relationships with their teammates, coaches, volunteers and families, and a sense of belonging, in a safe and supporting environment (Darcy & Dowse, 2013; Fiorilli et al., 2016; Inoue & Forneris, 2015).

Other opportunities for individuals with intellectual disabilities to participate in sports are provided through some non-governmental organisations and/or clubs.

Yet, sports programs in specialized settings have been criticized for being exclusive, as interactions with mainstream population are limited (Inoue & Forneris, 2015). Many authors believe that a variety of sport and recreational opportunities should be available to individuals living with disabilities, in a context that is as inclusive as possible and in line with the individuals' capabilities and desires.

To create more inclusive practices and make sport accessible to everybody at any level, a reformed sporting agenda that moves from focusing on the deficits of individuals towards understanding the complexity of sporting practices through bio-psycho-social model approach to disability has been suggested. Understanding how individuals with disabilities experiences constrain sport participation is critical in managing support for participation and enabling sport experiences (Sotiriadou & Wicker, 2014).

The World Health Organization's (WHO, 2001) International Classification of Functioning (ICF), records categories for disability type, level of disability and activity limitations.

Disability is measured by body function and structure, and the level of limitation is termed as none, mild, moderate, severe or profound. This measure is being often used as an important variable for understanding sport participation. Therefore, the activity limitations have been classified by the level of support a person requires to participate from independent, low, medium, high and very high (Robertson & Emerson, 2010). Participation rates of individuals with ID vary often by disability type and level of support needs.

Modifying or adapting sport activities to meet the needs, skills and abilities of participants can be a simple way for sport programs to be more inclusive. One of the most important contributors to successful inclusion in sport activities is adapting things to suit the needs of individual participants. In particular this applies to disability, where, adaptations are applied so that participation in activities or development of sport-based skills can occur effectively.

This is where having a simple and repeatable process can come in handy. Coaches, activity leaders, program planners and administrators can all benefit from having a method of making appropriate adaptations and modifications to sport activities – a sport participation model.

1.1 Sport participation model

Sports participation is, like any other aspect of human development, influenced by three domains that seem to represent the core subject knowledge that underpins participant development in sport: physical; psychological; and social domains.

Taken together, these domains reflect the biopsychosocial nature of development (Figure 1.).

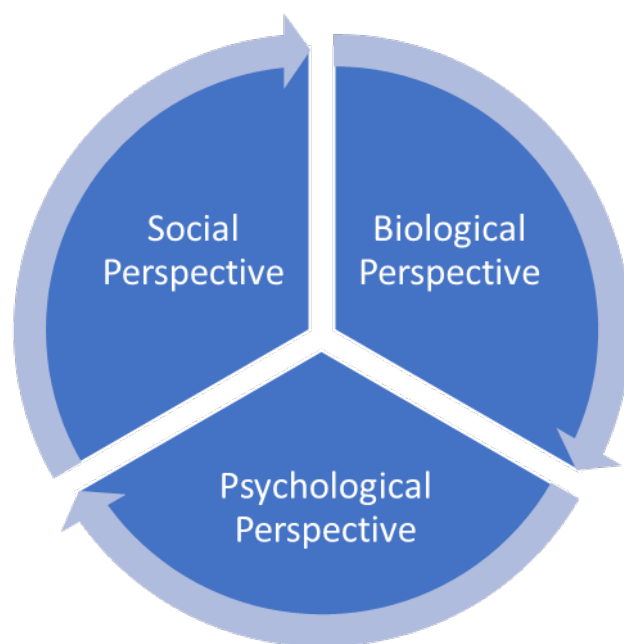


Figure 1. Bio-Psycho-Social Perspectives

The biopsychosocial model positing a dynamic interaction between biological, psychological and social factors, has become an increasingly popular way of characterising human development (Kiesler, 1999), as the approaches that fail to acknowledge the multifaceted nature of development, are considered being in danger of missing the complex, dynamic and non-linear nature of development (Abbott et al, 2005) and are, therefore, inherently inadequate.

1.1.1 Biological Perspective

There are measurable changes in body shape and structure during childhood and adolescence, that relate to an integrated natural development of genes, hormones, nutrients and environmental factors that bring anatomical, neurological, muscular and metabolic/hormonal adaptations. Consequently, this has a direct impact upon the development of specific abilities and fitness components. A significant amount of evidence shows that this biological maturation is non-linear and dynamic, meaning an active variance in the development of fitness components between individuals (Boisseau and Delamarche, 2000; Naughton et al, 2000; Baquet et al, 2003; Norris and Smith, 2002).

Currently, the application of such information by practitioners to enhance athletic performance is not optimal even though there are numerous conceptual models that encompass training prescription with such developmental processes to potentially help optimise future athletic performance (Riordan, 1977; Brokhin, 1978; Gilbert, 1980; Holm, 1987; Thumm, 1987; Sanderson, 1989; Touretski, 1993; Bompa, 1995 in Bailey et al.).

Norris and Smith (2002) correctly state the most essential component of an effective training programme is the concept of individualisation, which appears to be a limitation of many generalised models, as each participant in sport, exercise and physical activity will experience a different rate of individual development throughout life and if people want to optimise development, biological perspective of development should be taken into consideration – but not isolated from other two perspectives – psychological and social.

1.1.2 Psychological Perspective

Individuals with ID, as well as all other sport participants, are likely to encounter a range of long and short developmental stages and, perhaps more crucially and a greater challenge, transitions between these stages as they progress in their sport. Unfortunately, most existing models fail to acknowledge the non-linear and dynamic pathways that typify prolonged engagement in sport.

At this point important psychological characteristics have to be mentioned that young athletes need to successfully realise their potential. These include mental skills, such as imagery or goal setting, as well as the attitudes, emotions and desires of young athletes.

An individual must employ a variety of skills to optimise development opportunities (eg. first-time appearances at a new level of competition, significant wins and losses, the 'challenge' of learning a new skill), adapt to setbacks (eg. injury, slumps in performance, peer-group challenge) and effectively negotiate key transitions encountered along the way (eg. selection, demands for increased practice, the push to conform to adolescent stereotypes).

Without these important skills and the ability to negotiate developmental challenges, an individual may not maintain the motivation to reach the achievements at any level of participation, regardless of his or her 'talent'.

Therefore, it is recommended that participant development models include psychological characteristic as a key part of their recommendations for practice. Since psychological characteristics appear to be a consistent predictor of performance, regardless of domain or level of achievement, a model promoting the development of a range of psychological characteristic enables individuals to make unrestricted participation choices across the lifespan.

Seefeldt et al (1992) surveyed over 8000 children identifying a variety of reasons underpinning the involvement in sport. They showed that children strive for opportunities in sport and physical activity where they can experience challenge, fun and enjoyment, which, in turn, increases their self-esteem and confidence. Carpenter and colleagues demonstrate that having fun is highly correlated with the desire to continue to participate in sport (Carpenter and Scanlan, 1998; Carpenter, Scanlan, Simons and Lobel, 1993 in Bailey et al. 2010). Findings subsumed within the participation motivation research defines “fun” as one of the most important reasons for sport participation.

Abbott and Collins (2004) point out to important psychological characteristics of developing excellence in sports, such as:

- Goal setting
- Realistic performance evaluations
- Imagery
- Planning and organisational skills
- Commitment
- Focus and distraction control
- Coping with pressure
- Self-awareness

Even though the role of psychological characteristics as determinants of performance is well established in the literature, the understanding and practical application of these as determinants of participant development is far from comprehensive (Baker and Horton, 2004).

1.1.3 Social Perspectives

A number of key social/environmental factors can affect participation and involvement in sport and physical activity during childhood and adolescence. While there is evidence of the importance of factors, such as the family, socioeconomic status, educational background, geographical location, gender, ethnicity, peers and identity, there is little consideration of any of these factors within existing participant development models.

The most influential factor in all project participating countries seems to be the family and familial support systems and networks.

Kay (2003 in Bailey et al, 2010) explains that within the social research the family is recognised as a central social institution and a primary vehicle for social change. Therefore, it seems crucial to work through familial structures, their roles and composition as planning the opportunities for young people to access sporting environments.

Socioeconomic status of the family is also important as, for example, the cost of kit, fees, transport to and from training and matches is vital for involvement in many sports and more crucial as the performer gets older and wishes to participate at a higher level.

Not just the opportunity and provision are important but the geographic location and the 'opportunity' to participate, as well. Research (Bale, 2003; Wright et al, 2003; Côté et al 2006 in Bailey et al., 2010) highlighted that the size of the living area has an effect on access, opportunity and provision. A smaller city can be far more facilitative of participation than a rural or urban area.

The issues of gender, peer influence and ethnicity also cannot be forgotten, as the research shows (Biddle et al, 2005; Brackenridge, 2007) the less involvement of women with ID in sports (ibid).

There is a need for participant development models to acknowledge and understand the relevance of all the above-mentioned perspectives as without such awareness, it will be impossible to produce a coherent and comprehensive strategy. Therefore, the participant development model we are proposing within this project will not only acknowledge biological and psychological issues, but also reflect the social background of the participants – making sure to provide a holistic, accurate and effective participant development model.

The following section presents the results of the analysis of some of the existing and most influential general participant development models in sports.

2 Analysis of existing participant development models

There are two different direction of the models: linear ('traditional', 'standard' or 'conventional') and non-linear models of participant development.

Traditional models (such as the Pyramid model of sports development by Green (2005) present sports development as a relatively linear progression along a continuum, from childhood to retirement.

Many theorists suggest that developmental pathways in sport are, opposite of traditional models, non-linear and that sport players pass through discrete, but idiosyncratic stages as they develop from novice to expert (Abbott et al, 2004; Côté and Hay, 2002a; Vaeyens et al, 2008 in Bailey, et al. 2010).

2.1 Linear models of participant development

2.1.1 Pyramid model of sports development

Sport development is about facilitating opportunities for people to get involved in sport and physical activity and refers to the policies, processes, and practice of facilitating opportunities for involvement in sport, from mass participation to elite performance (Hylton & Bramham, 2008; Green, 2005).

Traditionally, the analogy of a pyramid has been used to depict the relationship between mass participation and elite sport.

Green's (2005) Pyramid Model of Sport Development suggested that there are three levels of sport development:

- a) mass participation which seeks to develop opportunities for everyone to participate in sport;
- b) competitive sport which deals with peoples chances to achieve their potential in sport, from taking part for fun and health to competition; and
- c) high performance sport in which athletes are identified and developed for their performance potential.



Figure 2. Pyramid Model of Sport Development (Green, 2005)

Sport development systems have two main objectives: to increase the number of participants actively engaged in sport and to enhance the quality of performances in sport (Green, 2005).

Kirk, Brettschneider and Auld (2005) argue its influence can be seen in numerous international sports participation models and “the assumptions underpinning the pyramid model continue to have a powerful residual influence on thinking about junior sport participation and sport development in sport policy” (p. 2).

Despite its popularity among policy makers, there have been numerous criticisms at the pyramid approach as well, such as the systematic exclusion of players due to the pyramid design. Also the logic of the model means that the quality of performers at the higher levels is dependent on the experiences and resources offered to those at the lowest levels.

Siedentop (2002), states that sports participation has three primary goals:

- **the public health goal** - 'to allow the most talented and interested young athletes to pursue excellence' (p. 395).
- **the educative goal** - 'supported primarily for the educational and developmental benefits...If the educative goal was to dominate...it would be as inclusive as possible...' (p. 394) and
- **the elite-development goal** - 'to contribute to the public health of a nation...it would emphasise playful activity above all and would specifically target for inclusion those...who are most at risk.' (pp. 394–95)

Traditionally tended the researchers and policy makers to conceptualise the development of ability as genetically inherited and measurable (Abbott and Collins, 2004; Bailey and Morley, 2006).

On the other side, the contemporary researchers tend to favour multidimensional models of development (Simonton, 1999; Ziegler and Heller, 2000 in Bailey et al., 2010):

- Areas of Achievement or Ability (Marland, 1972);
- Multiple Intelligences (Gardner, 1983);
- Munich Model of Giftedness and Talent (Perleth and Heller, 1994);
- Differentiated Model of Giftedness and Talent (Gagné, 2000).

There is wide-scale acceptance among researchers that performance in all forms of sport is multifactorial, requiring the performer to develop a range of skills and abilities (such as physiological, biomechanical, psychological and physical). Therefore, we turn the discussion now to four non-traditional models that have been particularly influential in recent discussions of sports participation and development in different European countries:

- Istvan Balyi's Long-Term Athlete Development (2001)
- Jean Côté's Developmental Model of Sport Participation (2003)
- Abbott et al's Psychological Characteristics of Developing Excellence (2002)
- Bailey and Morley's Model of Talent Development in Physical Education (2005)

2.2 Non-linear models of participant development – key elements

	Balyi's LTAD	Côté's DMSP	Abbott et al's PCDE	Bailey and Morley's Model of Talent Development
Aim	'to present 'an all-embracing coaching philosophy that puts the needs of participants/ athletes at the centre of decision-making about sports system development' (Balyi, Ross and Duffy, 2010)	'to understand different pathways of sport involvement from childhood to adults' (Côté, per. comm., 23/09/2009)	'to explore prerequisites to success in sport, and the comparative efficacy of employing these prerequisites within talent identification schemes' (Abbot and Collins, 2004)	'to make explicit theorising about the nature, content and character of the talent development process in physical education' (Bailey and Morley, 2006)
Primary disciplinary background	<ul style="list-style-type: none"> • Exercise physiology • Anatomy (especially boyl. maturation) 	<ul style="list-style-type: none"> • Social psychology • Developmental psychology 	<ul style="list-style-type: none"> • Performance psychology 	<ul style="list-style-type: none"> • Education • Philosophy
Research methods	<ul style="list-style-type: none"> • Analysis of literature • Empirical observations of practice 	<ul style="list-style-type: none"> • Retrospective recall with elite performers, recreational participants, and dropouts from sports • Analysis of literature 	<ul style="list-style-type: none"> • Analysis of literature - retrospective recall with elite performers in various perform. Domains; Sliding populations tracking with developing elites in various perf. domains • Pilot interventions in schools 	<ul style="list-style-type: none"> • Qualitative research with teachers and young people • Quantitative research with schools • Analysis of literature • School-based case studies
Key sources	<ul style="list-style-type: none"> • Mainly eastern European sources – physiology and training methods 	<ul style="list-style-type: none"> • Bloom's stages • Ericsson's research on deliberate practice 	<ul style="list-style-type: none"> • Orlick and Partington's 1998 work on characteristics of excellence • A 'complex systems' perspective on determinants of perform., learning and development 	<ul style="list-style-type: none"> • Abbott et al's critique of Ericsson's research on deliberate practice

Theoretical Framework	Non-linear biological maturation	Expertise theory Developmental theories	Psychological concomitants/precursors of effective development	Munich Model of Giftedness and Talent
Core constructions	<ul style="list-style-type: none"> Stages of development (FUNdamental, Learning to Train, Training to Train, Training to Compete, Training to Win, Retaining) Critical periods 	Stages and trajectories towards elite performance, continued participation, and personal development in sport <ul style="list-style-type: none"> Sampling Deliberate play Deliberate practice 	<ul style="list-style-type: none"> Studies on metacognitive skills Psychological characteristics of developing excellence (PCDEs) Effective talent development environments (TDEs) Systematic development of PCDEs to address challenge in the pathway, particularly transition Stressing talent development over identification 	<ul style="list-style-type: none"> Multi-abilities Personal and environmental influencers Deliberate practice
Practical considerations	<ul style="list-style-type: none"> Use of biological maturation measurements to inform individual training and competition loading rather than chronological age classifications 	<ul style="list-style-type: none"> Broad foundation of sampling sports and involvement in deliberate play during childhood Progressive involvement in deliberate practice from childhood to adulthood Developmentally appropriate training patterns and psychosocial influences Holistic approach to sport participation 	<ul style="list-style-type: none"> Teaching ‘characteristics of excellence’ as cross-domain facilitators Developing and refining optimum TDEs Catering for the non-linear and dynamic pathway to excellence Recognition that these applications also impact on participation – a continuum approach 	<ul style="list-style-type: none"> Strategies for talent identification Strategies for talent provision Multi-skills practices

Table 1. Key elements of non-traditional Models (Baily at al., 2010)

2.3 Special Olympics Athlete Development Model

The Special Olympics Athlete Development Model (ADM) has to be mentioned in this section as well as it is an existing support plan designed to empower each of Special Olympics athletes all around the world. The model promotes motor and skill development as well as health and fitness, while preparing athletes for competition at all levels.

ADM is closely connected to the Coach Development Model (CDM), which is providing a framework for Special Olympics Programs to certify coaches and recognizes specific coach qualifications.

Following the CDM, Programs recruit and train coaches to fit into the Athlete Development Model. Coaches trained under the CDM support a lifelong sports experience for Special Olympics athletes along their different sports development paths. This Model also offers guidance and best practices of working with local sports governing bodies to train and certify coaches.

But what are the core components, tools, support and definitions of all of the different stages of the Athlete and Coach Development Models and how can this knowledge be used to ensure a general participant development in sports?

In the following table (Table 2) the core components, tools, support and definitions of the different stages of the Athlete and Coach Development Models are presented.

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Stages	Fundamentals:	Learning to Train:	Training to Compete:	Recreational Activities:
Components	The focus is on the basics of motor development and fundamentals of sports skills, building a foundation of health, fitness and nutrition habits.	Intent to convert skills learned in the Fundamental stage into sports specific skills, within multiple sport settings, focusing on learning to train.	The athlete narrows their training to focus on one or two sports. Becomes comfortable with all aspects of competition preparation.	The athlete continues to participate in sports, have fun and maintain a healthy lifestyle.
Key components of activities offered	<p>- Fun activities with focus on motor development and activities together with family members and/or other children/volunteers/partners.</p> <p>Activities can take place in a gym, in a pool or outdoor. Family involvement.</p> <p>Structured and fun age appropriate activities with focus on balance, coordination, speed, agility and flexibility. Basic Sport Movement Skills.</p> <p>Provide training opportunities for athletes to acquire skills considered essential in the recognized skill progressions leading to participation in Official Special Olympics sports.</p>	<p>Variety of sport activities with focus on strength, endurance, balance.</p> <p>Focus on goal setting and evaluation in a fun way.</p> <p>Athletes become aware and understand the importance and impact of training.</p> <p>Provide an environment that allows athletes to train and practice in preparation for competition.</p> <p>Inclusive of mental preparation for training and competitions</p>	<p>Endurance, Strength and Sport specific training.</p> <p>Rules, planning, goal setting and evaluation.</p> <p>The athlete should become responsible and independent for their training and competition preparation.</p> <p>Provide opportunities to prepare athletes to compete and achieve personal bests in a competition setting</p>	<p>Variety of activities with focus on achieving physical fitness, social/emotional enjoyment.</p> <p>Provide an environment that is fun and encourages athletes to stay active and pursue sporting activities and physical activity opportunities</p>
Type of Competitions	- Young Athletes and MATP demonstration events at local, regional and international games, including World Games. Only local athletes should participate.	- Local level	<p>- All levels, including National, Regional and World Games</p> <p>Compete 4 to 6 times during a season, also outside SO when opportunities arise.</p> <p>High Performing athletes should have access to all competition opportunities that are available</p>	<p>Unified Sports® Recreation day</p> <p>- community based events</p> <p>- Local Events</p>
Coaches Certification	<p>Meet SOI coaches certification standards (5 criteria- General Orientation ; basics of Coaching of SO athletes; Coaching specific sports; 10 hours practicum as verified/endorsed by the local SO Programme).</p> <p>Motor learning skills course. M.A.T.P. if applicable to community.</p> <p>Young Athletes. Training in basic nutrition and injury prevention.</p>	<p>Meet SOI coaches certification standards (5 criteria- General Orientation ; basics of Coaching of SO athletes; Coaching specific sports; 10 hours practicum as verified/endorsed by the local SO Programme).</p> <p>Additional basic sports specific knowledge.</p>	<p>Meet SOI coaches certification standards (5 criteria- General Orientation ; basics of Coaching of SO athletes; Coaching specific sports; 10 hours practicum as verified/endorsed by the local SO Programme)</p> <p>University/Federation sports specific certification at a high level.</p>	- Meet SOI General Orientation as verified/endorsed by the local SO Programme and has a familiarity with working/coaching within the ID community.

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<p>Coaches Focus (One or more coaches may be involved in the delivery of the focus areas at these Stages)</p>	<ul style="list-style-type: none"> - Ensure a safe environment is provided. - Emphasize coordination, balance, speed, power, and basic skill development - Using games and exposure to a variety of sports. - Introduce concepts such as cooperation, meaningful involvement, respect, and sharing - and work on improving social skills provide in a structured, fun and positive socially inclusive environment. 	<ul style="list-style-type: none"> - Ensure a safe environment is provided. - To build a multi skill foundation that will provide the athlete with sport options. - Introduce decision-making skills and simple rules of sport. - Integrate appropriate technical, tactical, and physical training. 	<ul style="list-style-type: none"> - Ensure a safe environment is provided. - Goal setting for specific competitions & peak performance and evaluation. - Recovery and injury prevention to ensure personal bests during competitions. - Individualize training programs based on the results of testing and developing individual strengths and minimizing weaknesses based on the sport-specific technical, tactical. - Adopt Sports Federations specific ADM into training and competition planning based on the athlete's individual characteristics. - Physical, and psychological requirements of the sport. - Identify frequent quality competitions 	<ul style="list-style-type: none"> - Ensure a safe environment is provided. - Create a fun environment that allows for social interaction and ongoing physical activities and promotion of positive health behaviours. - Provide inclusive recreational opportunities
<p>Unified Sports®</p>	<ul style="list-style-type: none"> - Fundamentals Core Components is applicable to Unified Sports Recreation. 	<ul style="list-style-type: none"> - Training - learning and practice Core Components is applicable to Unified Sports Player Development. 	<ul style="list-style-type: none"> - Competitions - learning and training to achieve personal best performances Core Components is applicable to both Unified Sports Competitive and Unified Sports Player Development models. 	<ul style="list-style-type: none"> - Recreational activities Core Components are applicable to Unified Sports Recreation.
<p>STRIVE Health and Nutrition (HA – TBD)</p>	<ul style="list-style-type: none"> - Health Promotion. - Fun Fitness. - Availing of Health Screening programmes & taking action as appropriate. 	<p>STRIVE</p> <ul style="list-style-type: none"> - Health Promotion. - Fun Fitness. - Availing of Health Screening programmes & taking action as appropriate. - Athletes taking responsibility for their health and well being 	<ul style="list-style-type: none"> - Health Promotion. - Fun Fitness. - Availing of Health Screening programmes & taking action as appropriate. - Athletes taking responsibility for their health and well being 	<ul style="list-style-type: none"> - Connect athletes with community as promoters of Special Olympics and TRAIN. - Health Promotion. - Fun Fitness. - Maintaining healthy lifestyle behaviours
<p>Technology</p>	<ul style="list-style-type: none"> - STRIVE assessments. - Athletes and coaches establish and evaluate goals, tracking of athletes' training performance and personal best, training information. Nutrition and health information 	<ul style="list-style-type: none"> - Personal Sports Development. - Injury Prevention. - Sport Technical Information. - ATA: for individual goal setting, tracking training and performance, personal best, training information, health/ nutrition information. - Communication platform for Coaches/athletes 	<ul style="list-style-type: none"> - Personal Sports Development. - Mental Training. - Injury Prevention. - Sport Technical Information. - ATA: for individual goal setting, tracking training and performance, personal best, training information, health/ nutrition information. - Communication platform for Coaches/athletes 	<ul style="list-style-type: none"> - Social Networking and information sharing with other athletes. - ATA: for individual goal setting, tracking performance, personal best, health and nutrition information. - Communication platform for Coaches/athletes
<p>Best Practice</p>	<p>Using ongoing research to guide the development of best practice in Young Athletes. To provide new exercises/drills/games to develop fundamental skills.</p>	<ul style="list-style-type: none"> - Align with best practices of National Sports Organisations/ National Governing Bodies. 	<ul style="list-style-type: none"> - Explore opportunities to increase competition opportunities for athletes locally, both with Special Olympics and integrated with mainstream competition/sport. 	<ul style="list-style-type: none"> - Providing athletes with the information and support to make decisions regarding their recreational sports participation.
	<ul style="list-style-type: none"> - Using social media platforms to share best practice. 	<ul style="list-style-type: none"> - Using social media platforms to share best practice. 	<ul style="list-style-type: none"> - Using social media platforms to share best practice. 	<ul style="list-style-type: none"> - Using social media platforms to share best practice.

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Community Partners	<ul style="list-style-type: none"> - Health care providers Institutions and schools. - Interest organizations for people with intellectual disabilities. - Sports clubs. 	<ul style="list-style-type: none"> - Learning institutions. - Volunteer organisations 	<ul style="list-style-type: none"> - Learning institutions 	<ul style="list-style-type: none"> - Sports Federations / clubs. - Government agencies. - Learning institutions. - Volunteer organisations.
Family and Caregiver support	<ul style="list-style-type: none"> - Support home training and healthy nutrition. - Encourage simple physical activities in the daily living . - Use available Apps and resources to encourage a healthy and active lifestyle. - Identify and support attendance in sports training. - Share good news stories and interactions with other parents. 	<ul style="list-style-type: none"> - Motivation and support to choose the right sports, practice and support home training, encourage the best nutrition. - Transportation. - Family coaches and assistant coaches. - Act as Unified partners. - Families acting as spokes people. 	<ul style="list-style-type: none"> -Provision of Home equipment to enhance additional training. - Knowledge of sports nutrition. - Motivators for personal training. - Spectators and volunteers at competitions. - Families acting as spokes people. 	<ul style="list-style-type: none"> - Active family involvement. - Act of Unified partners
Funding Sources	<ul style="list-style-type: none"> - Check with the Regional office. - Government agencies. - Sponsors/Supporters. - Donations. - Social Corporate grants 	<ul style="list-style-type: none"> - Check with the Regional office. - Government agencies. - Sponsors/Supporters. - Donations. - Social Corporate grants 	<ul style="list-style-type: none"> - Check with the Regional office. - Government agencies. - Sponsors/Supporters. - Donations. - Social Corporate grants 	<ul style="list-style-type: none"> - Check with the Regional office. - Government agencies. - Sponsors/Supporters. - Donations. - Social Corporate grants
Awareness	<ul style="list-style-type: none"> - Active involvement with Media. - Social media. - Family Networks. - Demonstrations. - Ambassadors. - Presentations. - Athlete Advocacy. 	<ul style="list-style-type: none"> - Active involvement with Media. - Social media. - Family Networks. - Demonstrations. - Ambassadors. - Presentations. - Athlete Advocacy. - Engagement with sports bodies. 	<ul style="list-style-type: none"> - Active involvement with Media. - Social media. - Family Networks. - Demonstrations. - Ambassadors. - Presentations. - Athlete Advocacy. - Engagement with sports bodies. 	<ul style="list-style-type: none"> - Active involvement with Media. - Social media. - Family Networks. - Demonstrations. - Ambassadors. - Presentations. - Athlete Advocacy. - Engagement with sports bodies.
Other relevant involvement of SO athletes in Sports	<ul style="list-style-type: none"> - Age appropriate volunteering 	<ul style="list-style-type: none"> - Links to Athletes as officials, coach and Project Unify. 	<ul style="list-style-type: none"> - Links to Athletes as officials, coach and Project Unify. - Use of federations to identify mentors of athletes to become certified officials and coaches. - Use of athletes as mentors or promoters of the sport and SO board members. 	<ul style="list-style-type: none"> ● Links to Athletes as officials, coach and Project Unify. ● Use of athletes as mentors or promoters of the sport and SO board members.

Table 2. Core components, tools, support and definitions of the different stages of the Athlete and Coach Development Models (www.specialolympics.org)

As shown in the Table 2 above as well as in the previously mentioned models, specific and well-planned practice, training, competition and recovery regime will not just ensure a mere participation in the sport programs and activities but also an optimum development throughout an athlete's career.

Ultimately, sustained success comes from training and performing well over the long-term. There is a wide variation in the physical, cognitive and emotional development of athletes within each and every age group.

Therefore, designing the long and short-term athlete training models as well as competition and recovery programs should not be based solely on the chronological age of athletes/sport participants.

On the other side, intellectual disabilities can manifest in different ways in different athletes, even those with the same diagnoses. Therefore, it is imperative to treat each athlete as an individual with different wants/needs and with different ways of communicating these wants and needs. Assumptions based upon disability type can be detrimental to the athlete, coach and team.

Design of optimal individual programs with relation to "critical" or "sensitive" periods of trainability during the maturation process considering all the perspectives (bio-psycho-social) of developmental spectrum are the central in the participation development model proposed within the SocPORT Project.

3 Sport participation model - recommendations

Through the commissioning of this report and associated working party initiatives, we have recognised the need for a participant-orientated approach to sport inclusion and coaching with the aim to promote a holistic view of the child, athlete and player.

Therefore, a participant development model must be holistic and must above that address the complexity of interactions between different contexts of functioning (bio-psycho-social) and offer clear practical guidelines and directions for further investigation and development, while providing an empirical and theoretical justification for these statements.

This section provides the recommendations for policies and strategic documents adaptations as well as the recommendations for the employee education.

3.1 Recommendations for policies and strategic documents adaptations

- **Policies** - Sport policy and practice in all project participating countries posit the need for an immediate revision and future changes should be informed by a purpose-driven research agenda
- **Principles and Places** - Inclusion and an early accessibility of sports for all should be covered in all policies and regulations as well as the lifelong physical activity participation should be acknowledged and applied.

- **People** - ‘participant approach thinking’ – involvement of persons with disabilities at all stages of decision making and action
- **Promotion** - ‘building the market’ initiatives are an important aspect of the promotion and professionalisation of effective coaching. As there is no optimal model of participation - all the models of participation should be continually and independently evaluated and adapted accordingly
- **Partners** - the need for consistently targeted pathways, with considerable interaction between education systems (pre-school, compulsory and post-compulsory education), governing bodies of sport and government agencies at local and national level.

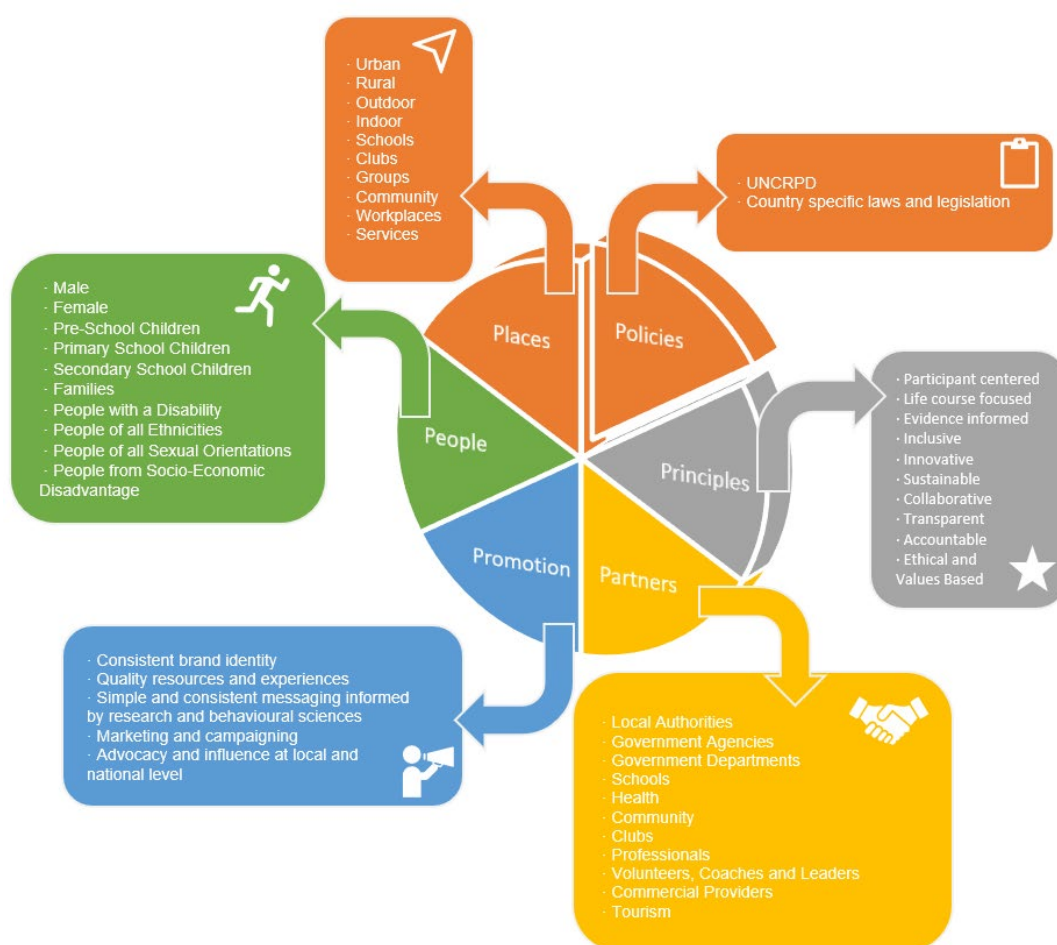


Figure 3. Recommendations and common action plan

3.2 Recommendations for employee's education

Considering the development in three different domains: biological, psychological and social – the employees will be provided with information and strategies regarding different functional and learning characteristics of athletes and to help Special Olympics and sport organisations employees work with athletes more effectively.

To prevent that the employees have certain expectations of an athlete that may not be realistic – great attention will be given to continuous (in-service) training, reflection and consultations.

Special attention should be given to the following areas of employee training:

- **Individual participant development** ought to remain a central feature of the coaching framework for Special Olympics
- **Biopsychosocial nature of participant development in sport** – diversity of influences on engagement in sport - multifaceted, multi-factorial nature of participant development
- **Knowledge about health, psycho-motor and psycho-behavioural characteristics** (as those underpin prolonged engagement in sport and physical activity) and how the context and characteristics of the individual influence the deployment of psychobehavioural characteristics.
- **Interdisciplinary research**
- **Participatory research** – active involvement of the persons with ID sport-science research
- **Effective initiating and maintaining participation development by physical education policy and practice** (the transition stages within education and their effect upon participant development; the 'real world' process through which people sample, specialise and invest in sport within the context of project countries culture; how sports clubs and/or coaching 'work' as a means of maintaining and increasing participation in sport).
- **Teaching and coaching style:** how the coach delivers the activity, how they organise, lead and communicate. Important: to be aware of the abilities and needs of all the participants; to use age appropriate language; to keep instructions short and simple and check for understanding; to be mindful of positioning (are participants within visual and audible range?); to use appropriate physical assistance – guide a participant's body parts through a movement; to use of visual aids and demonstrations, such as white boards or cue cards or other forms of augmentative and alternative communication; to be acquainted with, introduce and try a buddy system)
- **Rules and Regulations:** making changes to the rules that govern games and activities can enable greater inclusion. Setting, removing or simplifying rules as skills and understanding increase – is of great importance (eg. to modify and adapt the activities and rules and regulations according to individual needs and abilities)
- **Environment:** preparing and making changes to the space, for the whole group or individuals within the group. (eg. to reduce or increase the size of the playing area; to implement zones within the playing area; to reduce net, hoop or goal height and width; to use a smooth surface such as an indoor court; to limit distractions in the surrounding area such as loud music, unnecessary equipment or other activities...)

- **Equipment:** is about changing the thing used to play the game or complete the activity (eg. to change or adapt the size; to change or adapt the weight; to change and adapt the colour; to change and adapt the length; to change and adapt the way of using; to use balls that bounce less or float more; to use equipment that contrasts with the area of play...)

4 Key conclusions

Participation in sports helps children develop physically, mentally and socially, and contributes to a lifelong emphasis on health and well-being. The fundamental movement and sports skills gained through developmental sports activities provide a valuable framework that supports children as they progress to become Special Olympics athletes and Unified partners.

A biopsychosocial perspective undermines simple equations of participant development with biological maturation, psychological development or social factors and will be used.

Individuals with intellectual disability experience higher rates of social exclusion and more restrictions to becoming fully included in their communities (Abbott & McConkey, 2006; Amado, Stancliffe, McCarron, & McCallion, 2013; Taheri, Perry, & Minnes, 2016). Programs and policies to foster social inclusion of this population are essential. Three key concepts inherent to social inclusion of individuals with intellectual disability include participation in one's community, positive interpersonal relationships and a sense of belonging (Hall, 2010; Simplican, Leader, Kosciulek, & Leahy, 2015).

These can be enhanced through meaningful participation in sports and physical activities (Grandisson, Tétreault, & Freeman, 2012; Inoue & Forneris, 2015; McConkey, Dowling, Hassan, & Menke, 2013).

Through the commissioning of this report and associated working party initiatives, we have recognised the need for a participant-orientated approach to sport inclusion and coaching with the aim to promote a holistic view of the child, athlete and player and a holistic participant development model that address the complexity of interactions between different contexts of functioning (bio-psycho-social) and offer clear practical guidelines and directions for further investigation and development, while providing an empirical and theoretical justification for these statements.

Recommendations for policies and strategic documents adaptations as well as the recommendations for the employee education have been made.

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